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C O N T E N T S

Vol. 2

NOVEMBER, 1938

No. 3

MINICAM MONTHLY

WILL LANE, Editor

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"In Focus"

"Old Maestro"

Sirs:

With great interest I have been following the articles and readers' letters concerning self-portraits published in *MINICAM*. Personally,



I class myself with Rembrandt and the Old Masters who delighted in producing self-pixes. Inclosed you will find some recent efforts.

My technical procedure is extremely simple: using two photo-floods for lighting, I clamp my AF Argus

on a chair with an Optipod, focus on the desired picture area and trip the shutter via a thread from the hand closest to the camera.

These prints are truly the ultimate in self-portraiture and will be difficult to "top" by your readers.

DICK FLETCHER

Davenport, Iowa.

"... photographically cold"

Sirs:

... debt of gratitude which one rabid clitterbug owes to the hurricane which swept New York and New England and about which people are still talking.

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the result of the experiences of a woman hav-
ing only the barest nodding acquaintance with
a camera, making a tour through some of the
storm-torn sections of Long Island . . .

L. S. WAGENSELLER.

Flushing, N. Y.

- Adjudged the month's number 1 photographic news story, the event is covered in this issue. See "Hurricane," page 30.—Ed.

"Have a Light"

Sirs:

Said I to myself, "Have a light," and made
a self portrait
without using
much light to
speak of.

Process: Cam-
era was focused,
room darkened,
and shutter open-
ed. Then lighter
was flashed sev-
eral times. Argus
AF. f4.5. Agfa
Ultra Speed De-
veloped twenty
minutes in Tab-
loid Photograph-
er and model:



Phila., Pa.

J. R. WILLIAMS

"Build It Yourself"

Sirs:

It is interesting to run across letters from
people such as Mr. H. E. Foster, who last
month inveighed against the amateurs who like
to build their own equipment. In some respects
Mr. Foster is quite correct.

I, for one like to make photographic equip-
ment. However, when I make photographic
equipment, I don't plan to save money or time.
It is more generally a case of building some-
thing that can't be bought at any price. Some-
thing that has refinements or special features
which I won't and cannot buy. I might point
out that I have found that, in general, I can
save money over the cost of somewhat similar
standard photographic equipment.

Possibly, Mr. Foster will point out that one
can have special equipment built by an in-
strument maker or professional machinist, and
he would be quite right. However, until Uncle
Sam begins to show a very definite interest in
my income I shall continue to be my own in-
strument maker.

My point is this, you should devote a lot
less space to pure gadgetry and at least a little
space to photographic apparatus of design and
finish that can hold its head up with the best
the dealers have to offer.

Finally, I would like to suggest that you
give up using color photographs for your cover

until you obtain some color photographs that are also color pictures. The picture on the October cover is one of the worst color photographs I have ever seen.

THOMAS D. SHARPLES.

Swarthmore, Penn.

High School Idea

Sirs:

These two pictures I hope will be of interest. One is a lucky snapshot of a girl as she came out of our school. It was taken candidly as she walked past, f3.5 at a 200th. The other was taken at a dance at a friend's house and



shows all the boys kissing their partners. This happened at a given signal and the girls were caught entirely unawares. The picture caused quite a commotion during classes in school several days later when the girls were confronted by their "steadies." (6.3 with a hand flash; 8 ft. distance.)



PHILIP N. DAVISON

Chevy Chase Md.

P. S. The portrait of the pretty girl sold very rapidly at 50c a print to her numerous admirers. There is a profitable business waiting for the high school amateur who will take pictures of the popular girls.

Early Starter

Sirs:

I'm only 14 yrs. old but very interested in photography and MINICAM.

As I lack the financial resources I like to build my dark room supplies, if possible. I've built the roll film developing tank from the plans in the May issue, and it works splendidly.

I've also built an enlarger of my idea costing less than half a dollar. I use my Argus as the lens and it enlarges up to, and larger than 8 x 10.

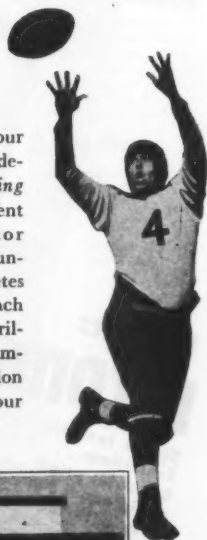
You've given me some very good ideas and I hope they continue to be in print.

I've looked through many photographic magazines at the newsstand, but always end up taking MINICAM home.

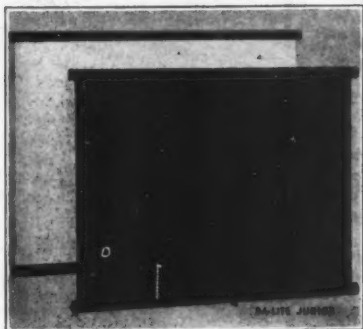
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Staten Island, N. Y.

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E. LEITZ, Inc., 730 FIFTH AVE., NEW YORK CITY

Kids Lookout

Sirs:

The mail man was a day late in delivering the issue of Minicam and these two boys volunteered to climb to "Crows Nest"—that the glasses picked up the mail carrier is evident by Dick's smile (lower right).

"Crows Nest" is one of my favorites because it was not suggested or sponsored in any way. It was truly candid. I have many feet of film depicting the lives of my four children. With such a wealth of material what more could a minicam-ist ask?

Until five months ago a camera was but a passive mystery to me—a new

Welti and MINICAM Magazine introduced me to this grand hobby—photography.

What I haven't learned about photography (it seems more every day) MINICAM will have to teach me. Judging from past issues the assignment is not impossible.

Welti Camera, /6.3 at 1/50th second, Agfa Fine Grain Super Pan film. Printed on Agfa Brovira.

W. J. RICE

Lincoln, Neb.



● On the lookout for the mail-man, MINICAM and pictures.

"Disclaim"

Sirs:

The paragraph which I would like to have printed in MINICAM is as follows:

The article "Nature Patterns" which appeared in the June, 1938, MINICAM, under the name of H. W. Wagner, includes editorial changes and additions which he did not have opportunity to authorize before they were printed. Wagner wishes to disclaim responsibility for those portions which he did not write, especially those on page 33 which contain the pronoun "I."

I hope that this paragraph will be in the next issue.

H. W. WAGNER.

Worcester, Mass.

"Lucky," Says Contest Winner

Sirs:

I was quite agreeably thrilled and surprised when I bought my copy of Oct. MINICAM a few days ago and saw that my photo "Ocean's Tresses" had won \$100. Naturally I was quite on edge with anticipation until I received your letter. It isn't everyday that one is able to win such a handsome prize, or even has an opportunity to try for one, and you may be sure that this is quite welcome and is going to do a great deal of good.

Of course I read the article, "How Contests Are Won", in fact, it was the first thing I read in the Oct. issue. This "Water" contest prize is the third major prize that I have won this year, the other two being in the 18th Annual Competition sponsored by American Photography, and the First Grand Award in the last six months' Zeiss competition. Whether this makes me one of the old timers referred to in the article who have "too much experience", I don't know. Since I have been doing my own work only slightly over four years now, I hardly think it does, however, from what experience I do have, I think the article just about hits the nail on the head.

I have for instance, in at least three instances in the Zeiss competition submitted prints that would be considered good by ordinary standards, yet which were returned without comment. However, I liked these shots and so made each of them over, in each case striving for maximum print quality and resubmitted them. Two of these prints subsequently were awarded prizes and the third was purchased by Zeiss for publicity purposes. I mention this just to illustrate that print quality helps gain the attention in contests.

Often I test prints that I think are good like this: The print or prints that I am interested in I mix with a number of other prints and show them to various friends, both photographic and otherwise. If these prints are as good as I originally thought they were, they invariably draw extra comment or exclamations. If a print will stand this test, I feel confident that it will hold its own in any salon or contest. If the print does not draw the expected comments, I know that something must be lacking and I usually study it some more to see how it can be improved. Often better print quality alone will do the trick.

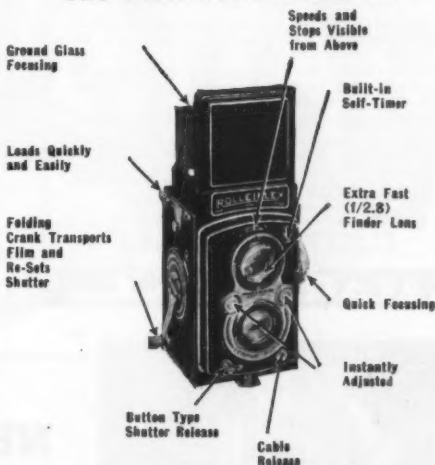
One more point, also in line with the contest article: Though the winning print was from last season's "beach" period, the other two prints that I submitted to you were shot with just one idea in mind at the time, and that was your "Water" contest. I first read about the contest, I think, about last April, and consequently made a special trip to the ocean early last spring just to get some new negatives to work with. Though these others failed to

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win, I think you will agree that they were definitely the type of picture suited for such a contest.

A similar case: Last January I received an entry blank for the 18th Annual of American Photography and decided to try for one of the prizes. I printed up a few from my negatives on hand but decided that I could do better by getting an entirely new shot just for this contest. I was stumped for a while until I noticed some seagulls in the nearby park, driven there, I guess, by storms at sea, that gave me the idea I was looking for, so I spent a couple hours in the park trying to catch the birds on the wing. I didn't take many shots, but among those that I did take, one turned out to be a prize winner, a second received top honors in the Pittsburgh Salon shortly thereafter. The point I want to make is this: Almost invariably, my most outstanding prints have been those to which I gave the most serious thought before shooting, not that I knew what my exact result would be, but I had enough of an idea that I did not shoot indiscriminately, but in each case held my shots until I saw what I wanted in the finder.

Again, may I thank you for that magnificent award and wish you and your very interesting MINICAM all the success in the world.

WERNER STOY

Los Angeles, Calif.



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● A New Year's card made by re-photographing an 8 x 10 enlargement on which lettering had been done by hand. The enlargement was made by taping together two negatives. The "diving" girl first was photographed sitting down, with a black background. Before deciding what size greeting card to make, be sure suitable envelopes are obtainable. Photograph by Allan Richardson.

How to Make PHOTO GREETINGS

Use these modern methods to make personalized greeting cards: (1) One Shot Method. (2) Re-photographing. (3) Masking. (4) Double Printing.

By HENRY CLAY GIPSON

PUTTING his photographic knowledge into practice and giving free play to his flare for originality, Mack Minifan—

and every camera user—now is making personalized greeting cards for Christmas and New Year's.

It is an opportunity for every occasion—whether the announcement of a business firm or birth of a baby. Letterheads and calling cards also may be produced by the photographic method, and when small quantities are desired, the result not only may be more artistic and individual, but also more economical.

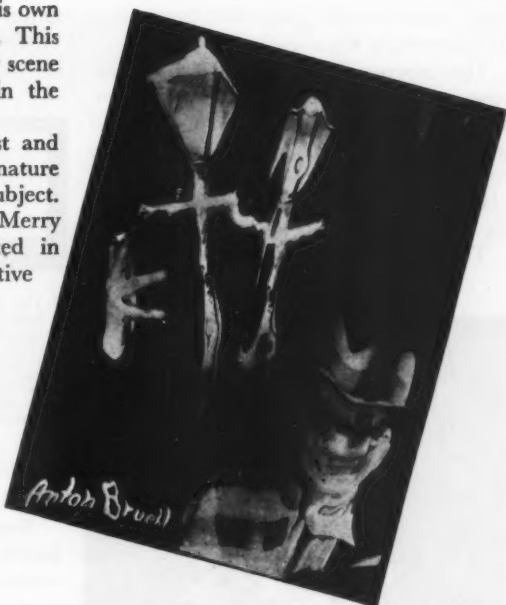
Choice of subject-matter is all-important. Greetings should be individual—expressing the sender's personality. For



this reason, the card-maker selects his own home, yard, family, etc., as subjects. This is more important than just a pretty scene which might suggest any family in the block.

Method number 1 is the simplest and fastest of all. The message and signature is incorporated in the original subject. In Fig. 4, (page 12), the words "Merry Christmas, the Smiths" was tracked in the snow. The resultant negative was printed on double weight paper and mailed without further ado. Mr. Smith took advantage of an early snow, but might have added human interest by including the figure of Junior Smith in the act of making the tracks.

A slightly more intimate result is illustrated in Fig. 3. As in the snow-track card, the entire greeting was made in one operation. The message "Merry Christmas" and the signature at the lower right were cut out of white paper and pasted on cardboard. Then the proud parents arranged one flood bulb in the fireplace and two flood bulbs about six feet in front. With Superpan Press film in the camera, the picture was snapped at 1/50th second, f6.3. The



● Anton Bruehl, the New York color photographer, made this greeting card by printing an 8 x 10 enlargement of a friend, lettering on the print and then copying the reflection of it on a curved ferrotype tin. The final prints were made on 4 x 5 double weight Brovira. Fig. 8

prints were pasted on baggage tags to be fastened to Christmas gifts.

Letters from movie titling outfits may be used with relatively small subjects. Table top scenes also may be arranged so as to include a complete greeting card in one picture.

The second is the re-photograph method. The greeting is pasted or hand-lettered on an 8 x 10 enlargement, as in Figs. 1 and 6. If desired, a photomontage may be made as in Fig. 2. The result is then copied onto a negative of the desired size. The copying may be done either with the camera or with the enlarger. This will provide the master negative from which as many contact prints as desired may be made.

(For copying with the camera see "Closeup Lenses" in MINICAM for August. See also "Copying with the Enlarger" in MINICAM for September. For how to make copy negatives see "Project Your Pictures" in this issue. The making of

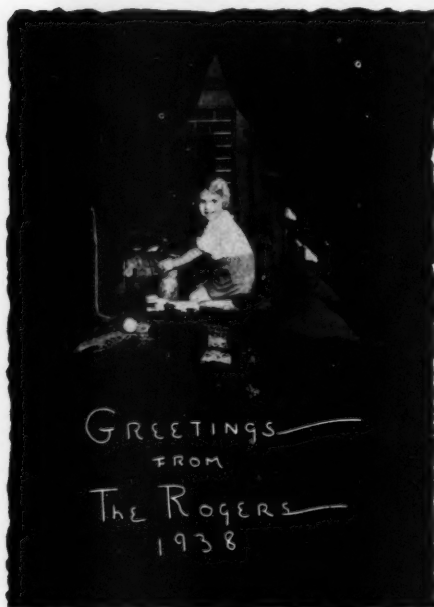
← See left hand page.

- Fig. 1. Re-photograph method. The lettering was set in type, printed on an 8 x 10 enlargement, and the result re-photographed.
- Fig. 2. Re-photograph method in which photomontage enlargement was made and then copied with a "closeup" lens on the camera.
- Fig. 3. One-shot method. Lettering cut out of white paper and pasted on cardboard. This is the simplest method, photographically, as the entire greeting card is produced at one time and as many prints as desired may be made, either contacts or enlargements. Prints may be pasted to baggage tags for fastening to Christmas gifts.
- Fig. 4. One-shot method. Other subjects for this technique might be a child spelling out a greeting with alphabet blocks; a holiday wreath with a large tag bearing message and signature clearly legible on the package.
- Fig. 5. Masking method. Two or three negatives are fastened with Scotch tape to black paper masks as in Figs. 9 and 10.
- Fig. 6. Re-photograph method. Hand-written message and signature give a personal touch to this card.
- Fig. 7. Variant of the re-photograph method. As well as being a holiday greeting card, this served to introduce a new member of the family. A print of the baby was first made and then placed under a print of a wreath. The "Merry Christmas" from another card was pasted on top and the whole thing copied. An enlargement was made and then the boy posed as shown for the final photograph.

copy negatives and projection positives is fundamentally the same.)

The copying process may be taken advantage of for introducing distortion. The print simply is tilted, bent or folded when being copied. Or its reflection is copied in a mirror or shiny ferrotype plate, as was done by Anton Bruehl, the New York color photographer, Fig. 8.

The third is the masking method. Two

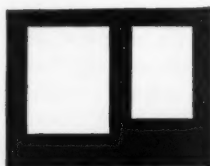


- The double printing method is very simple. One piece of paper is exposed in a contact printer to two negatives in the order described, and then the paper is developed as usual. Fig. 11

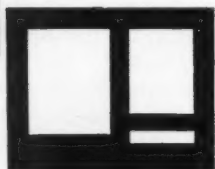
or more negatives are used to create a card like Fig. 5. A mask is cut from a piece of black paper to the size of the card desired. Two rectangles are cut with a razor blade, as in Fig. 9. In one rectangle, the negative of the selected picture is placed, and in the other, the negative of the lettering. These negatives are held in place with Scotch tape. The mask, complete with the two negatives, then is handled like one negative to make contact prints. The sensitive paper is placed next to the negative side. If the mask comes between the paper and negative, some

diffusion and lack of sharpness will result.

When the signature is on a separate negative, the mask is cut as in Fig. 10,



- Separate negatives for the picture and greeting message are fastened with Scotch tape to a mask (left) cut out of black paper. Fig. 9

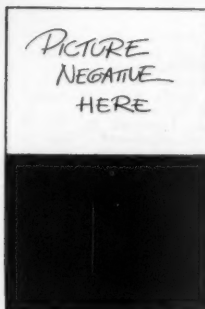


- This form of mask (right) is used when the signature is on a third negative. The assembly is handled like one negative and as many contact prints as desired may be made. Fig. 10

the small opening being for the third or signature negative.

Ready-made greeting card production outfits may be obtained at photo supply dealers. An outfit includes a mask and a selection of sentiments such as "Holiday Greetings," "Merry Christmas," etc. Such masks usually accommodate a 2 x 3-inch picture negative, or this portion of a larger negative. The picture negative is placed on the largest opening in the mask (Fig. 10). The sentiment negative goes in the next opening. The smallest opening is for the signature and a third negative must be prepared for this purpose.

A signature may be set up in type by the local printer,



- The first printing negative is masked like the above. This prints the image with the black portion protecting the lower part of the card from exposure. Fig. 12



- The second printing mask (right) is a clear piece of celluloid with a black paper cut-out Christmas tree drawn or pasted on. The lettering is in black India ink on the celluloid. This masks the entire picture except for the lettering and Xmas tree design. Fig. 13



- Avery Slack, who made the Kodachrome for MINICAM'S cover last month, designed the above card for its religious theme. From a portrait, a circular portion was cut out, pasted on a large card and hand-decorated. The result was copied and 5 x 7 prints made on double-weight stock. Sentiments are most effectively expressed in personal greetings when the photographic subjects are members of the family issuing the greeting. Fig. 14

and a proof drawn on a good grade of glossy stock. For a more personal effect, the signature may be written, with black India ink, on a large white card. When copied, the signature negative must be of correct size to fit into the rectangular slit in the mask.

The signature negative also may be made by simple contact printing. It is written in the exact size desired on a piece



- The lettering problem can be nicely taken care of when a movie-titling outfit is available. In the above, a cloud picture was selected and projected on the enlarging easel. The letters then were placed directly on the paper and the exposure made. Fig. 15

of clear celluloid or draftsman's tracing paper (obtainable at stationery stores). Then a contact print is made with a piece of process film. Or a piece of film may be cut from a roll

film, preferably ortho. Develop fully to obtain a dense black background. Use any M-Q developer such as D 72, dilute 1 to 1, and develop 3 to 5 minutes at 70°.

If the lettering does not successfully print pure white, the negative can be retouched with opaque drawn on the lettering negative, or the negative can be intensified.

Double printing or "reverse masking" was used to produce Fig. 11. Although simple to use, this method is capable of novel effects.

The selected photograph is printed while masking off the part where lettering will appear. It is not important that the photograph be carefully masked, as the second printing will block out everything except the part that is to show.

For the second printing, a piece of transparent celluloid or draftsman's tracing cloth is used. On this form, a design is drawn with India ink or Eastman's Opaque to mask the original photograph. The design in Fig. 11 was made by cutting

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PHOTOGRAPHING
THE NEWS STORY
OF THE MONTH



● Striking with lightning speed and force, the tropical storm destroyed small craft moored along the strandway in Dorchester Bay—but did not catch photographers napping. Speed Graphic, Agfa Superpan Press, 1/110th at f8.

Hurricane!

Typhoon, tidal wave, death, destruction, hardship and disaster paraded before the lenses of wirephoto photographers and the amateurs who aided them.

By A. J. EZICKSON

Times Wide World Photos

THE political hurricane which hovered over Europe and sent foreign correspondents scurrying for pictures was only a threat last month, but at home a real holocaust was roaring through New England giving local lensmen actual death and destruction for camera subjects.

It stunned weather prophets as well as picture editors. Until the afternoon of that fateful day, the weather seer had expected the roaring storm to veer off into the northeast, leaving only its tail whipping the coast-line with rains and high winds, nothing more than a natural nor'easter. But the unexpected happened and with it a burst of fury which left in its wake a death toll of 600 lives and more than \$600,000,000 worth of property damage. The entire New England coast-line

was a horrified series of crushed lives, splintered homes and debris-littered farms and highways.

The weather reports began when the hurricane was heading for the Florida coast. The newspaper syndicate picture editors assiduously followed the reports. Miami and other Florida cities were boarding up homes and stores.

Photographers were given ample warnings to stand by. They made their advance pictures—boarding up windows and tying up the boats—and then anxiously waited. Nothing happened. The storm turned tail and headed for the North Atlantic beating with high winds and rains on the Virginia, Maryland and Jersey coasts.

Then it gathered momentum and be-

fore any warnings could be given, swung back toward Long Island. All that morning of September 21st, heavy gusts of wind and rain tore at the Manhattan skyscrapers, sending pedestrians scurrying for cover, slowing traffic and felling trees in the suburbs.

Photographers donned slickers, pulled down hats and fared out for storm pictures. Reports came of damage along the north Jersey coast, and the syndicate editors phoned their Asbury Park and Atlantic City correspondents to train porter their stuff. They started handing negatives to the porters of outgoing passenger trains which could be met by messenger boys at the Grand Central and Pennsylvania terminals and rushed to editorial offices in New York City.

Nevertheless, editors awaited results only

to throw prints back on their desks, saying, "Nothing but a rainstorm . . ."

Not until late in the afternoon did the situation change. New Yorkers who were trying to reach their Long Island homes



● Near Saybrook, Conn., a cottage was lifted into the air like a piece of newspaper, blown for more than a mile and dropped on its roof. Although the photographer narrowly escaped with his life, he got his picture. *Agfa Superpan Press, 1/110th second at f8.*

- Looters soon began searching for spoil, troopers for bodies and cameramen for both. Newspaper syndicate editors pressed into service every available free-lance photographer in the storm areas, and amateurs rendered legion service in making the world an eye-witness to an unforgettable disaster.



phoned in and said that the roads were impassable, telephone connections were cut off. The Bronx River highway was flooded. Streams began over-flowing their banks. Giant trees bowled over like ten-pins.

Local cameramen rushed to the suburbs to get storm scenes. Samuel Platnick, well known free lance photographer, at Hempstead, was deluged with requests by newspapers and syndicates to cover his area and rush pictures. Connecticut, and the Boston and Providence areas were reporting widespread destruction. Phone calls to the Boston bureau in the early evening brought replies that flood conditions were bad, the wind was rising and additional damage was expected.

Requests to George Hill, Wide World bureau chief, brought immediate wired photo transmissions of swell flood pictures at Southbridge. Phone transmissions of pictures proved to be invaluable that night. There was no other way of getting the pictures to the outside world. Planes were grounded and the trains could not get through.

But not until that night did the world learn of the full significance of the hurricane's fury. Wired messages told of hundreds of homes swept away at Fire Island at the tip of Long Island, and at West Hampton on Great South Bay. Six different fires were raging at New London, Connecticut, with fear that it might sweep the entire city. A tidal wave had swept into the heart of Providence, drowning dozens of persons in the main business section.

Newspapers the country over swamped the picture syndicates with requests. The editors, however, were stymied. Phones were down or calls were limited and it was impossible to make any kind of contact with the worst hit sections. Plans were immediately laid for coverage in the morning. It was like laying battle plans for deploy and attack. Every area was to be thoroughly covered, and every means at the photographer's disposal to be used. Private plane companies were phoned and told to have ships ready to take off at dawn.

Photographers were routed out of their beds and told to be at West Hampton by morning. Some used their own cars, and others took trains as far as Riverhead, about ten miles away, hiring cars to go from there to the scene. A Wide World portable transmitter was set up in the offices of the Riverhead County Review, and Carl Nesensohn and George Alexander, the syndicate's staff cameramen, brought their negatives of the terrific destruction at the beautiful bay resort, developed them and rushed prints to be transmitted by phone wire to all parts of the country.

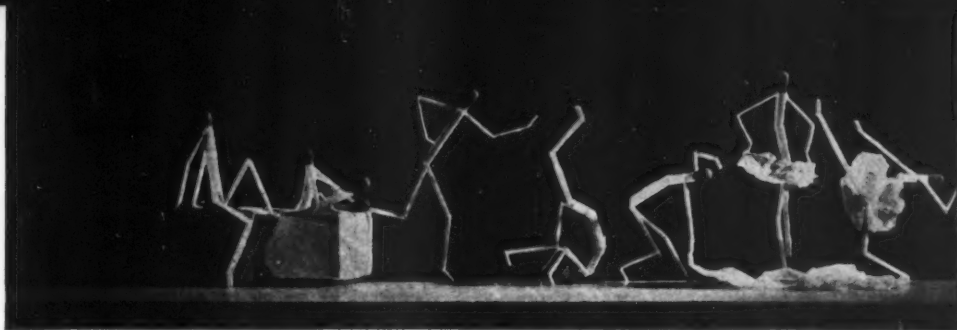
Reaching the scene of the story was an epic journey in itself. Cameramen were continually blocked along the road by fallen trees, twisted branches, telephone and telegraph poles with dangling wires, and somehow reached their destination by making wide detours or shooting their cars up embankments, over fields and through hedges. And then with dozens of pictures taken, there was the dangerous trip back to Riverhead to transmit by wire and train messenger to the New York office.

A dozen flying cameramen in the meantime zoomed low over New London with its fire-swept waterfront, Westerly, Newport and Providence, Rhode Island, and brought their plates back to waiting motorcycle messengers at New York's nearby airports.

At Hartford and other Connecticut River towns, the flood situation became acute with the river already up to flood stage, and rising every minute. Photographers with full equipment boarded the early morning train for New Haven, about 35 miles from the scene. There was no train service beyond that point. From there cars were hired. Efforts were made again and again to reach New London, but it was impossible to break through to that battered city by road and airviews had to tell the story of destruction.

Here is the thrilling story how Leonard Morgan, a Wide World photographer, covered the Hartford flood and the scenes of hurricane damage in the vicinity, a story that attests to the doggedness, perse-

(Page 70, please)



SAFETY MATCH BALLET

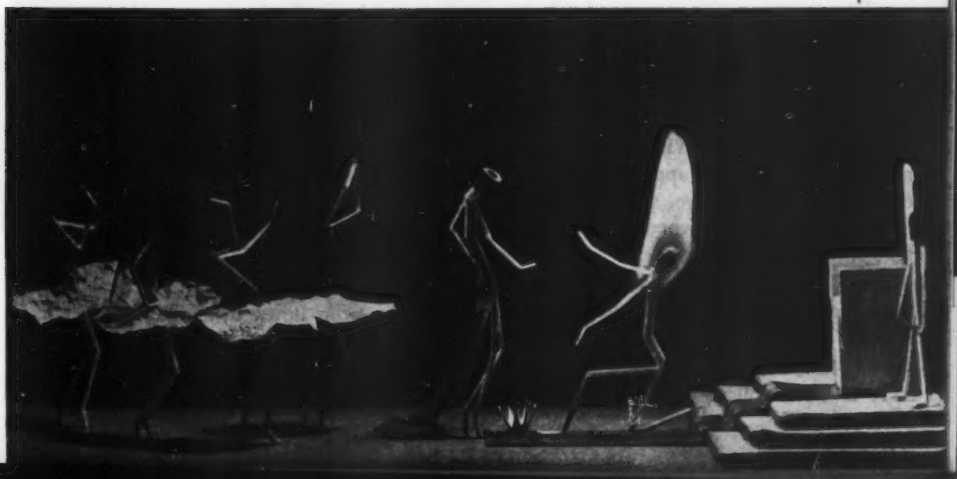
IN the opening scene (top) the matches jump quickly out of the box, to slip into their skirts for the ballet. Scene two (right), a tableau, is part of the dance itself. After the grand finale (bottom), the king rises from his throne, ravished by the dance of the matches. He lays his crown at the feet of the "premier danseuse" and overcome by the beauty and rhythm of what he has seen, bursts into flame.

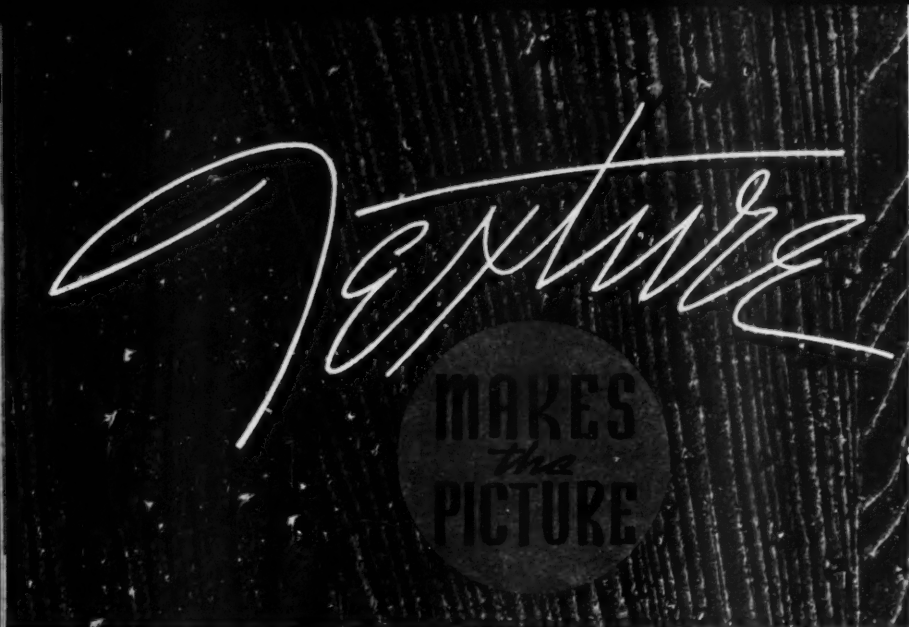
A dark background was used to set off the light colored matches. The two side lights were ordinary 50 watt bulbs, 3 feet away. Pan film was used and an exposure of 1 second at $f4.5$. Substituting flood bulbs, exposure would have been $1/25$ at $f4.5$. For table-top, story-telling sequences, good spotlighting can be obtained with ordinary pocket searchlights such as described in MINICAM's July issue, page 57.

A Table-top Drama



● A table top story, the "props" required are only a box of matches, a razor blade to give them arms and legs, glue and tissue paper for the skirts.





● The title, "Texture," was lettered, not on a piece of wood, but on a photograph of it. By understanding and applying the technique of texture lighting, the photographer can create surfaces "real enough to touch."

What is texture? What is the place of texture in photography and what does it mean to the photographer? What is texture lighting and how is it obtained?

By JACOB DESCHIN

Co-Author, "Lighting Ideas in Photography"

TO the naked eye, the moon is a smooth, yellow disc. The astronomical telescope, however, sees a surface erupted with mountains and pitted with giant craters.

To the normal eye, a piece of wood, a cut of velvet or a woman's cheek is a smooth surface. The texture camera, however, sees mountains, valleys and shadows. How does it do this and what purpose is served thereby?

Texture is detail. When this detail is not seen, no texture is apparent. The camera, like the human eye, sees texture's microscopic detail only when viewing a surface from a certain angle.

Detail serves for realism. The greater the amount of detail which can be presented, the greater the effect of reality conveyed by a picture.

It is not enough, however, merely to

reproduce the ocular appearance of a surface. Because of photography's limitations as to size, color and third dimension, the effect of texture in a picture must be intensified and exaggerated, just as emotions, for example, are exaggerated in a play or a book. Only then can the photograph print a steak that looks good enough to eat, or a towel that "feels" soft to the eye.

Detail is the exclusive province of the photographer. No draftsman in oil, crayon, water color, etching or other medium can compete with the camera's facility in reproducing texture. Regardless of the type of camera used, the photographer approaches as close as possible for sharp focus, he stops down to a relatively small opening for maximum definition, and then, above all, lights the subject correctly.

What is effective texture lighting?

A texture surface is most strongly apparent when the illuminant is placed at an angle so acute that the light just "skims" the surface and the individual particles constituting the surface cast long, separate shadows in a single direction. This is the primary texture lighting technique but does not necessarily limit subject matter to those possessing only plane surfaces. A level surface will permit the light to "graze" the surface without interruption or breaks and thus provide the maximum evidence of texture. With subjects that possess both flat and curved elements, an auxiliary, though very soft, light is necessary.

Texture is interpreted photographically in different ways by different workers, and there are few who have

not at one time tried their hand at this beautiful medium. The commercial photographer and the pictorialist may not always be in agreement as to what constitutes "good" rendition of texture.

Compare, for example, the illustrations of "Commercial Texture" and "Pictorial Texture" on the pages 24 and 26, or the several renditions of a slice of bread on pages 24 and 25. Certain essentials, however, are universal.

The writer, therefore, attempts, in a



BABYFACE TEXTURE

- In these two illustrations, the "feel" of texture rather than its actuality is the theme. Although the surfaces are smooth to the naked eye, it will be noted that in both the still life scene and the child's face, there exists a soft, texture atmosphere that must be ascribed to the distinctiveness of the surface of the subject. Therefore, the characteristic texture lighting is required to show it off.

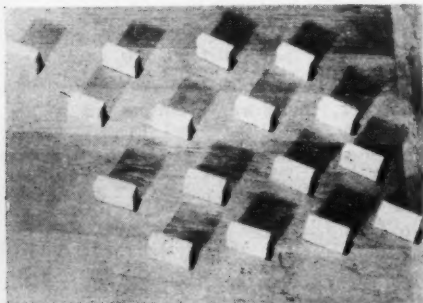
number of widely varying examples, to indicate the methods of various workers and at the same time to evolve a "texture lexicon" to enable various types of texture to be recognized and understood. The illustrations will show that texture photography is subject to many forms of ex-

pression, but that all are based on the characteristic texture technique.

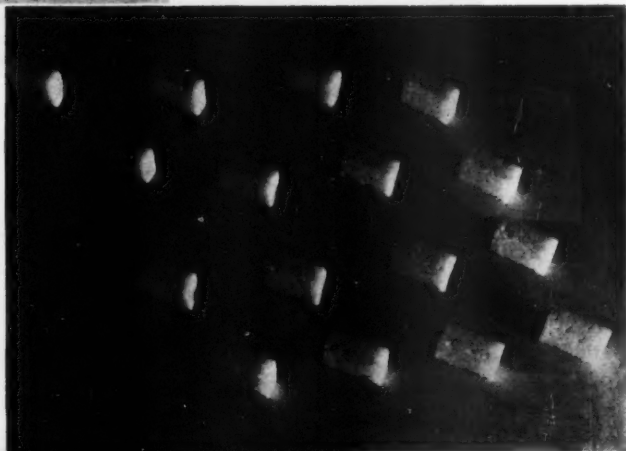
This is obtained by side and back lighting at an angle of about 5 to 30 degrees from the plane of the subject as illustrated by the "Lighting Chart for Texture" on the next page.

The most effective light source for rendering texture is a spotlight, but flood lights and sunlight, too, can be used with good success. A flood lamp used without a reflector on the lamp will produce a denser shadow than when a reflector is used.

Study the illustrations which follow with especial notice to the direction of the cast shadows for the clue to the type of lighting used and the lighting arrangement.

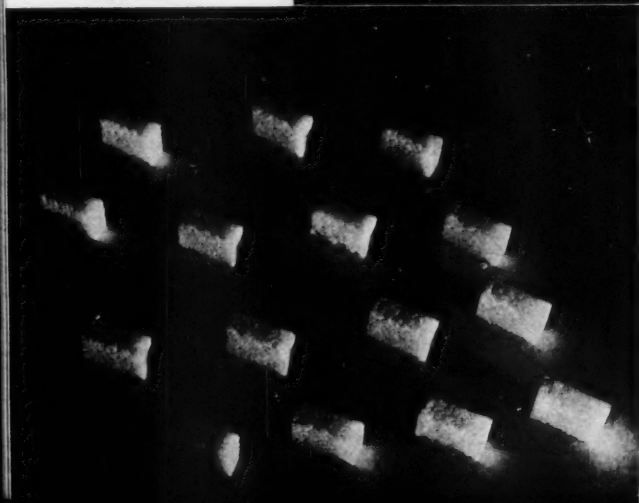


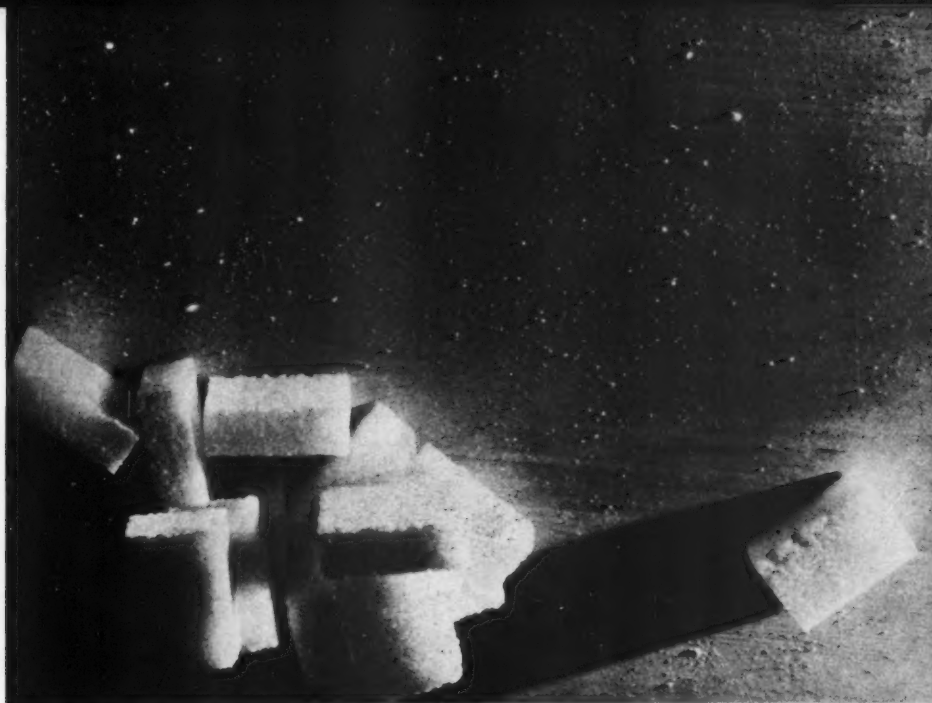
● Sugar cubes showing how lighting affects texture. Diffused lighting; flood lighting; spot lighting (top to bottom). One flood bulb, Pan film, f22 at 1 second.



CHOICE OF LIGHTS

- Spotlights are generally more effective than "flood" lights for rendering texture. The top illustration, lighted with floods from the sides and directly above shows how texture may become completely obliterated. The center illustration shows the same subject with side flood lighting. At the bottom, a spotlight was used; note the crisp texture detail.





HORIZON TEXTURE

- This is the most extreme texture lighting angle, the beams just scraping the surface of the subject. Note how even the tiniest particles of sugar dust throw long shadows. Exposure /16 at one second. One spotlight used as in Diagram 1 (below).

LIGHTING CHART FOR TEXTURE

- For dramatic texture rendering, a single light source at a right angle to the camera casts long surface shadows. See Candid, Glamor and Horizon Texture types. Diagram 1.



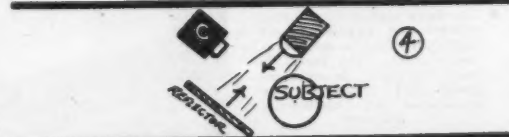
- For certain subjects, short texture shadows are desired and the light is raised about 30 degrees. See Babyface, Scenic, Superimposed and Wrinkle types. Also Candid and Glamor types. Diagram 2.



- Commercial illustrations utilize both of the above arrangements except with the addition of an auxiliary light to illuminate the shadows. The left hand diagram is for Commercial Shadow types and the right hand diagram for Commercial Wrinkle types. Diagram 3.



- To show up the texture of round subjects, the main light source, preferably a spotlight, is placed at right angle to the camera with a reflector or second light opposite. See Spherical texture. Diagram 4.



- A radically different lighting arrangement is used for the Highlight texture or Translucent texture treatments, the light being behind the subject, or facing the camera. Diagram 5.





COMMERCIAL TEXTURE

● For advertising purposes, the modern camera is called upon to reveal the texture of food so realistically that it is "good enough to eat." The main light is a spot light and in addition, a flood light and reflector are used to illuminate the shadows. See Diagram 3 in the lighting chart on the previous page. Sufficient auxiliary illumination often may be obtained merely by directing one flood light at a white ceiling or wall.

● The same subject illuminated without the auxiliary flood light, providing a more dramatic effect. The result is more "pictorial" in some respects but would not be considered for commercial purposes.



TRANSLUCENT TEXTURE

- With certain types of subjects, like those on this page, the most useful texture lighting is that which is sent *through* the subject, from behind, for "transparency" lighting. Who, but a photographer, would have thought of a slice of bread as a translucent substance? The lighting in this case not only showed the texture of the bread but also provided a dramatic shadow effect.



- The texture of a Japanese parasol is best revealed by lighting for translucence. The connotations of the subject, in this case, also are best expressed by this manner of lighting, because one *expects* to see sunlight through a parasol. This result is the opposite of that desired in the slice of bread picture where translucency is *not* normally seen or expected.



- The lighting of the window pane (above) for translucence suggests rather than defines the shape of the rain drops. For this type of subject photograph a relatively small area so that details will be reproduced in relatively large size. See also "Highlight Texture" on following page.



PICTORIAL TEXTURE

- Texture may be added *after* the picture is taken by the use of texture screen in printing or the paper negative process. The latter was used in the illustration shown here. No special lighting for texture required in this type. Title, "Man Bites Dog," by C. Verne Klintworth, from Southern Salon of Photography.

HIGHLIGHT TEXTURE

- Sharply-defined highlights are often sufficiently attractive and justifiable as example of texture photography even though the texture defined is limited to the highlights themselves at the bases of rain drops or on the surface of an ocean.





MOUNT MORAN

Kodak International Exhibit

By FRANK ROGERS

- The pictorialist engaged in landscape photography often deliberately works to soften detail. In the above, however, the photographer desired to keep detail as crisp as possible. From the illumination of the clouds, it can be seen that the sun lighting is at an angle, enough to throw short, sharp shadows, and give the surface of a mountain the texture "feel" of a human face.

SCENIC TEXTURE



SYNTHETIC TEXTURE (right)

- This is what a texture surface looks like theoretically. Surfaces of substances like skin, wood, cotton, etc., are not as flat and smooth as they seem. Texture can be artificially created by roughening the surface or by coating with a foreign substance such as the mud-pack on this subject's face. Notice that the surface appears roughest on the subject's left cheek which the light strikes at the greatest angle, while the surface reproduces as a perfectly smooth white where the light strikes head-on along the margin of the right cheek.



Photography Year Book

By LOUISE DAHL-WOLFE

WRINKLE TEXTURE

- The hands of age — a subject in which texture is so apparent that extreme lighting is not necessary and considerable diffusion with an auxiliary light may be resorted to for illuminating the shadows without destroying the revelation of texture.

LOW KEY TEXTURE

- Freshly-fallen snow has a texture, when correctly lighted, with great sparkle and brilliancy. In the illustration below, as with Babyface Texture, texture is suggested rather than revealed. A time of day was chosen in which the sunlight came skimming across the ceiling of the cave.

Kodak International Exhibit

By REX BERNICT

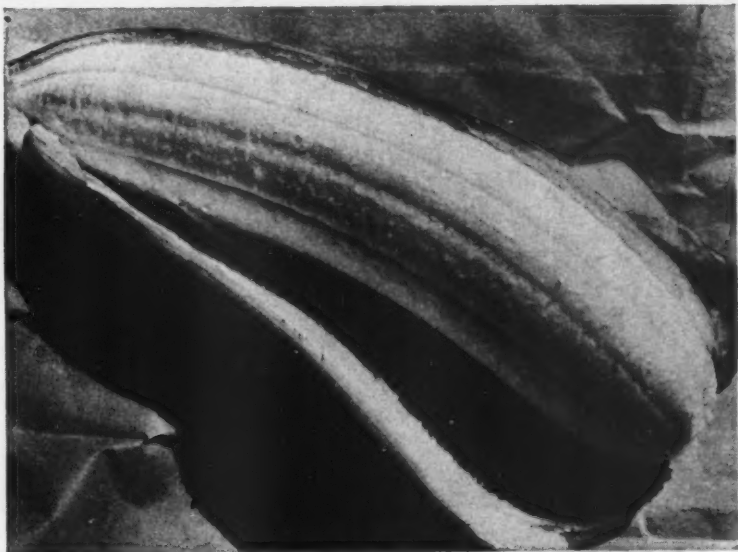




FROST ON THE GRASS

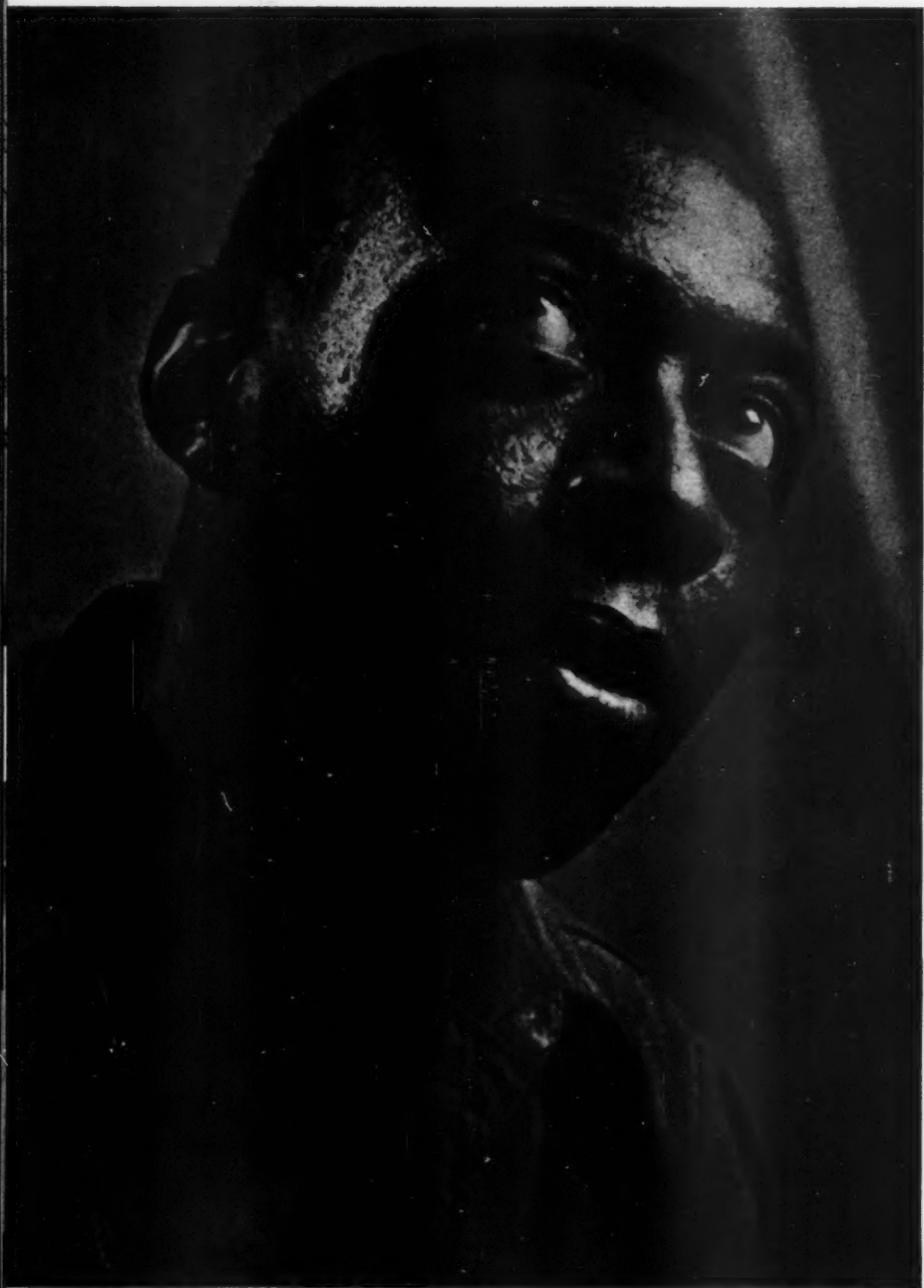
● This masterpiece of winter photography owes its success to lighting technique. Illumination from the side provides a beautiful example of crystal white stems against coal-black sky. Since the components of the subject are relatively round, it was necessary, in order to show this roundness as well as to reveal texture, to have the light strike the side and then come skimming around; the other side, happily, being illuminated by reflections of light from the blades to the left.

By EWING GALLOWAY



SPHERICAL TEXTURE

● A lighting technique similar to that employed above was used, the light striking the banana peel being reflected to the shadows inside the casing. One spotlight, exposure f5.6 at 1/2 second.



WHO, ME?

4th International Leica Exhibit

By R. F. KNIESCHE

- **CANDID TEXTURE.** Realistic treatment in which the photographer angled his light in relation to the subject until he showed up the deep scar on the cheek. The candid texture shooter not only avoids glossing over nature's blemishes, but actually goes out of his way to give them prominence. Agfa Super Pan, $\frac{1}{4}$ second, at $f/4.5$.

HOMESPUN TEXTURE

- A multitude of possibilities may be included in this category, one of which is shown here. It is described by the photographer as "a still life study" in which "spectacles and strawboard provide the subject, the effect being obtained by focusing the light from the filament of an ordinary electric bulb through the spectacles." Such imaginative adventures in the bypaths of texture photography have much to commend them, for they are in a way the ideas seedlings of tomorrow's full-grown photographic methods. It must be noted in this particular case, incidentally, that the individuality of the picture lies principally in the novelty of the lighting source rather than in the method of lighting the subject, for here again the basic texture cross-lighting is employed. One clear (not frosted) bulb was used. Exposure 3 minutes at f16.

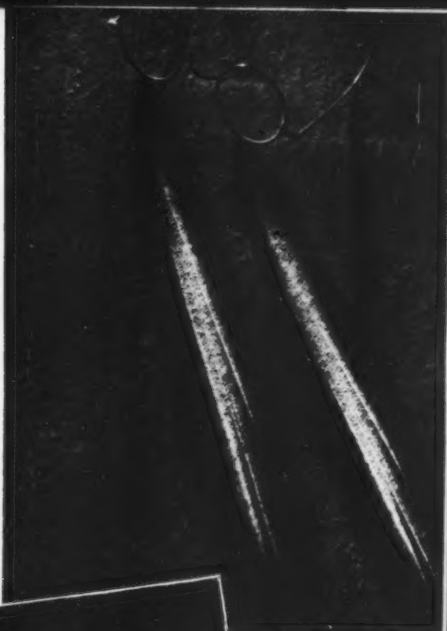
MAGIC CIRCLES

By F. R. WINWOOD

GLAMOR TEXTURE

By STEPHEN DEUTCH

- The use of oil on skin was one of the earliest devices mastered by Hollywood's camera magicians. The oil may be utilized in the CANDID TEXTURE treatment, as on the previous page, or as a softening and beauty-accenting medium. Glamor and texture may be artificially added to a photograph by the use of diffusion or texture screens. See also PICTORIAL TEXTURE and SYNTHETIC TEXTURE.



WINDOW SHOPPING

Store windows, "Art Galleries of the Common People," represent considerable expense and artistic endeavor. To the cameraman, they mean ready-made subject matter by day or night.

By JOHN DENNISON

Illustrated by the Author

FAR and wide we search for "human interest" material, and all the time it may be waiting right around the corner, in the plate glass windows of stores, restaurants and other business places. Such windows used to be the exclusive province of the commercial photographer who took pictures on order from proud proprietors desiring a permanent record of their windows. This is still an important phase of the commercial man's activities, but the amateur with fast film in his camera discovers that there is more to window pictures than mere store displays.

Window dressers at work, bookshops, people at tables in restaurants, and similar picture-foraging grounds offer opportunities galore. Window displays, themselves,



- Interesting compositions, all arranged, composed and lighted, are seen in the displays of the higher-priced stores. Avoid underexposure when the lights are colored. Pan film, $f/2$ at $1/20$ th second.



- "Human Interest" subjects occur in the "bargain price" areas. Instead of attractive models and lighting arrangements, there are candid shots of customers and window dressers at work. Pan film was used with the night shots shown here. Had Agfa Ultra Speed, Superpan Press or any of the other very fast films been used, the exposures could have been made at $f/3.5$ instead of $f/2$.



AT EASE

- Long exposures are simple when the subject is taking it easy with a book in her lap. Made at night with a telephoto lens on a 35 mm. camera on a tripod, the shutter was kept open as long as the subject remained motionless. Exposure 10 seconds at $f/4.5$.
- Reflections—the bane of commercial store-window photographers—are welcomed by the amateur pictorialist when interesting compositions result. Taken in daylight, at $1/25$ th second, $f/9$, the window panes distorted the distant park view just enough to give a surrealistic effect to the hat mannikin.

often are so arranged and lighted as to provide picture material that is peculiarly attractive and not at all suggestive of the commercial photograph.

As in other fields of photography, a through-the-window picture worth the making often is of the now-or-never type. It is worth making because of some human subject or subjects engaged in an



interesting activity, attractively composed and lighted. Some of the best pictures are spotted when least expected, so the worker makes it a point never to leave his camera at home when he goes strolling for the evening, for it is at this time that he will run across subjects that in many instances he may not be able to duplicate.

The wise amateur takes a small camera and a large supply of film. Generally, he will go abroad at night, frequenting the busy shopping streets. However, he should not despise the shops on the side streets, for it is here that many good pictures go a-begging because of the mistaken idea that where there are many things to choose from, there must be a great many pictures to take. This is not always so and the fellow who prefers the quiet subjects of the side streets frequently finds the field to himself and roams about at leisure, where the fellow in the shopping centers must jostle the crowd and hazard missing a picture because the crowd won't get out of his way long enough for him to make his precious shot.

The camera lens should be kept wide open, utilizing its highest speed, and the shutter set to $1/25$ th of a second, altering the speed of the latter to suit the intensity of the illumination that happens to be available. With an $f/2$ lens and one of the "super" speed films, it often will be possible to shoot at a shutter speed of $1/50$ th and even $1/100$ th of a second. The average set-up for night photography through the window, therefore, is this: use a fast lens, wide open, fast film and alter shutter speeds to suit the lighting, leaving the diaphragm opening always the same.

If the worker has a relatively "slow" lens, say $f/4.5$, he may at times be obliged to employ a shutter speed as slow as $1/10$ th or $1/5$ th of a second, and these speeds, for most workers, necessitate the use of a tripod. However, there are many who are able to make exposures from the hand at these slow speeds without showing any appreciable movement of the camera. The only way to find out if you can do it is to try it and see. It's a good stunt if you can, for it will get you out of many

tight places (photographically) in window photography as well as in other phases of your hobby. The important thing is to steady yourself firmly, to lean against something, if such a support is handy, or to supply the support in your own body frame by spreading your legs and balancing yourself in this way.

Hold the camera steady but without tenseness, suspend your breathing for a moment and shoot without haste, gently depressing the release to make the exposure. If you use a camera of the "eye-level" type, you can gain some steadiness from the fact that your nose may be utilized as a prop. In the case of the reflex type of camera, which is ordinarily employed at waist level, prop the elbows against the sides of your body and hold the camera against the diaphragm, holding your breath for the moment of exposure, as cautioned above.

Manufacturers of photographic accessories have realized the need for steady cameras, and have introduced several gadgets for aiding the photographer in this important feature of his work. Therefore, we now have the chest tripod, the waist tripod and similar aids which consist of a short tube and strap so arranged that the chest or waist, as the case may be, serves as the base for steadying. In any event, it is no less important even with these accessories to heed the old injunction to hold the breath and keep the hand steady.

As for "stopping" movement in the subject, generally speaking this will offer hardly any problem in the through-the-window photography as the subjects are usually fairly quiet or, at worst, in mild motion. However, should it be necessary to get more depth into the negative, that is, to cover sharply a fairly deep field, it may sometimes be necessary to ignore the general rule proposed above about keeping the lens diaphragm wide open for all shots and to close down one stop or even two. This, of course, will call for a longer exposure and may be necessary in cases where the photographer must work at fairly close range.

- Silhouetted subjects are often possible when there is not enough illumination for details. Spectators are "now or never" subjects that must be snapped without delay. Perfect is the arrangement of the figure caught musing before the second hand camera display under the ukeles in a pawnshop window. Pan film, $f/2$ at $1/20$ th.

The farther away from the subject, by the way, the greater the depth of field (range of sharpness) of the subject covered. For the majority of subjects, however, the short focus lens characteristic of the miniature camera ordinarily provides sufficient depth even at the widest opening of the lens.



The ability to move about unobtrusively and to operate the camera without attracting undue attention is one of the most important kinks in this field. Not that anyone necessarily is going to prevent your taking the pictures you are after, but the picture in most instances is bound to be spoiled if the subjects are conscious of the camera or, worse still, if they are looking straight towards the lens. Besides, work is



- Any lens or film is fast enough if a tripod is used. For time exposures, $f/8$ at 1 second will be adequate for brightly lighted windows and 5 to 30 seconds for dimmer ones.

often hampered by the curiosity of a crowd.

Focusing, therefore, should be done as inconspicuously as possible, preferably beforehand; that is, set the distance scale arbitrarily at say 8 or 10 feet and shoot for this distance all the way through. It will then be merely a matter of pulling the camera out of the pocket, quickly

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Imagination AND THE CAMERA

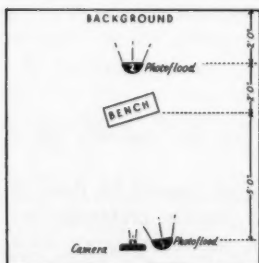
Photograph your friends as characters from history, literature, religion, music, etc. Conceive an idea and then execute it as would a movie director.

By NOWELL WARD

Illustrated by the Author

IMAGINATION may be brought to bear at any stage in the production of a photograph. The picture is most completely under the photographer's control when every part is planned in advance. First comes the idea—from a photograph, painting, book, poem, music, sculpture—and then the photographer proceeds to put his idea into life, selecting the model, costume, background, etc., like a director creating a screen play.

Imagination and the Model: It is worth working on more than one picture at a time, especially if on a model hunt. With several ideas in mind there is less



- For "Silhouette," "flat" or balanced lighting was used. One flood lamp was held near the camera. A second light was used on the background.

Fig. 1

danger of failure. You won't, while looking for a Josephine, be apt to pass up the charms of a Salome, or miss the spirituality of a potential Joan d'Arc. And should you be seeking the

executive type, or a likely exponent for a ditch digger, contrary to your expectation, you might find your model ditch digger behind a desk, and your executive on a WPA job, with a shovel in his hand.

Imagination and the Background:

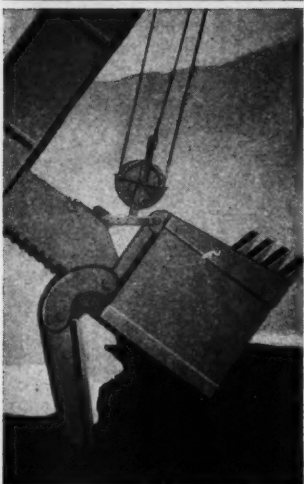
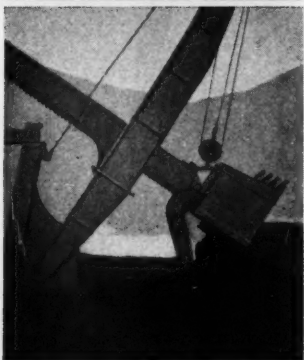
With your composition mentally ready as well as your model, the background is of next importance. Its general character will depend upon the type of picture planned. In a low key picture, the background will be kept dark. If it is to be in high key, then a light background is mandatory. An inexpensive window shade or a light, blank wall will answer nicely. To further the characterization of a Josephine, for example, you can put a Napoleonic atmosphere into the background by using a small frame of the period carrying the silhouette of the Little Corporal. Or, if you wish to be even more dramatic, also more obvious, a shadow of the Corsican can be cast across the background by using a small cardboard cutout placed in such a manner before a photoflood as to throw a life sized shadow. Naturally the relationship of this shadow to the rest of the composition must be planned well in advance, either by having a sit-in for



SILHOUETTE

FIG. 2

● One model may be used for widely different characterizations. This one also was used in "DEVOTION," Fig. 5. In choosing a model for this type of shot, look for a pleasing nose and chin line and a throat that is long and full. The profile line was made on the print. Exposure was 1/10th at f/8, Portrait Pan.



● The author painting the background, top. A realistic effect can be obtained with a hand-painted background if it is photographed out of focus. Fig. 3.

Josephine or by making a rough pencil sketch. If you wish to use a more modern background, one of pattern only, you may use circles or rectangular forms, crossing and interspaced and painted in different values of gray.

As the backgrounds will be kept out of focus, you need have no hesitancy in painting one if you wish; for no matter how crude it may look to you as a "work of art" it will usually photograph passably, and sometimes even beautifully. To begin with, you will not want to try too complicated a background. . . . The idea of any background is merely the means to some effect obtainable in no other way, and it can be simple, the simpler the better.

For instance: If you were picturing a monk, an unadorned archway would be sufficient for the background, and very beautiful, too; or a girl, typifying the health of outdoor life with a tennis racket in her hand would need just the suggestion of the net or court for background.

Imagination and the Costume: In your imaginary character it is not always necessary to show the full figure and this eliminates the need of period furniture and attendant decorations. Let the image of the model with *as few accessories as possible* tell your story. The costuming of the model will not disturb you if it is remembered that one of the beauties of black and white photography is that it does not call for expensive or colored garments. Avoid startling contrasts in pattern and keep to the varying shades between cream and gray. Pastel shades are tried-and-true favorites, while the use of a little black or white is always sure fire when accent is needed. And Patou or Chanel need not be called for consultation on costume effects if there are pins in your hand and imagination in your mind. An old discarded bodice and a light colored skirt can, and often does, photograph like an exclusive creation. The pins come in very handy for variation in style, placement of draperies and other needed effects for variety.

Subject matter contributes about 50 per cent to the success of the finished print. A subject must be interesting to you if it is to be so to others. Walk around a prospective model, be it fair lady, structure, or flower pot, mentally compare the advantages and disadvantages as viewed from different positions.

The "flat" or balanced lighting used for "Silhouette," is shown in the diagram, Fig. 1. The finished



INDUSTRIAL

- Background painted in about five values of gray, using opaque poster color. Two No. 1 photofloods in reflectors, one at a forty-five degree angle eight feet high, four feet from the model. The other light placed just to the left of the camera (facing the model) appeared on the background. Exposure, one-fifth used in placing lights so that no shadow from the model appeared on to the background. Exposure, one-fifth second at $f/8$, Pan film. Print made on Eastman Illustrators' Special.

FIG. 4

print was made from a paper negative. The margin of light accenting the profile was worked in on the paper positive with powdered graphite.

A black Spanish shawl was draped around the shoulders to give a dark base to the picture, and also to balance the dark hair. All detail was purposely avoided, the accent being rather on line and mass composition.

Panchromatic make-up was used: A light film of Max Factor's #25 base covering the face and throat—a liner on the eyelids, eyebrow pencil and panchromatic lip rouge.

The sweep of the lashes was artificially

provided by Woolworth's for the sum of twenty cents. If you have a dollar to spend, you can secure a better type, which are more sturdy and can be used over and over again. These artificial lashes are applied over the lady's natural ones with spirit gum and are easily removed, but in applying the spirit gum to the edge of the eyelid, care must be exercised not to get the cement into the eyes.

In a shot of this kind, the model must be chosen with an eye to profile and neck. Her throat line must be rather long and full, and she must have a pleasing nose and chin line.

Details for "Industrial" (Fig. 4), were worked out well in advance, and then I looked for a model. I found him, in the friend of a friend, a salesman who lived near my studio.

The background for "Industrial" was painted in about five shades of gray on a large piece of beaver board, but an inexpensive piece of sign painter's canvas would have done as well. Should you use this canvas for a background, be sure it is kept straight and free from bulges. Tack a strip of wood at top and bottom and hang the background from the wall. Such canvas comes in widths of 52 inches and sells for about 30c a yard. Beaver board, however, has the advantage that, while it costs more in the beginning, it can be used over and over again. It is possible to have a new background by painting over the

- To convey the religious feeling desired, the model was chosen for her delicate bone structure and beautiful hands. Flat or balanced lighting was used to avoid any heavy shadows which might distract the eye from the religious image. For background, a window shade was used. Pan film, 1/5th second, f/8.

DEVOTION

FIG. 5



preceding one.

The young salesman, wearing overalls and a dark blue work shirt was posed about four feet in front of the background, so that he would blend into it without too much contrast. We borrowed a shovel from the basement and presto we had all our necessary properties. This picture was intended to be inspirational and I worked along these lines with the model as I explained to him just what I hoped to accomplish. I took care to avoid too much foreshortening and saw to it that the lines of the figure corresponded somewhat to the pattern in the background. It is always a good rule to think of your composition in terms of lines, avoiding lines with a tendency to direct one's gaze from the central object. Never let there be doubt as to what belongs in a composition.

All minor forms or units are used merely to support the main theme but if in profusion, may become objectionable. The eye must never be allowed to wander thither and yon . . . away from the real "acting part" of the composition. *Omitting all non-essentials* is one of the surest ways of getting power and expression into a picture.

In "Devotion" as in "Silhouette," simplicity was the keynote. The same model was used for both pictures. To obtain a religious feeling in "Devotion," Fig. 5, a model was chosen for delicate bone structure and beautiful hands. She was dressed in a simple oatmeal-colored gown of full-cut, which, incidentally, served as a basic costume in many pictures. A long cream-colored scarf of thin material was draped on her head, and held in place by a nar-



THE SOUL'S AWAKENING

FIG. 6

- Approached from the humorous angle, the story-telling element dominates this picture. The title on the book was hand lettered and pasted on the cover with rubber cement. A plain background was used and flat lighting from one small flood lamp. Pan film, 1/5th second, f8. The idea came from seeing a "bum" reading in the park.

row band. The scarf was allowed to drape down the model's left side to avoid what might have been a disconcerting light trap under the chin. A window shade provided the background.

The lighting was kept flat or balanced to avoid heavy shadows that might distract the eye from the image. Although the figure is at rest, a feeling of motion is conveyed by the circular lines created by the position of the model.

With this type of lighting, the exposure must be judged very accurately. Had the negative been under-exposed, the modeling, along with the high-light in the cheek, would have been lost and the picture would have appeared flat. Had it been over-exposed, the skin texture would have registered as a chalky white area and the soft gray of the background would have emerged as a hard white surface. Pan film, 1/5th second at f8.

Lensman IN A LION'S DEN



● Sam Falk, Wide World photographer, ventures into the arena to make a picture of Dutch, who seems none too pleased to having the regular routine upset by such unorthodox procedure. Trainer Jacobs is keeping a watchful eye on his charge. One medium size flash bulb, Pan film, f/8 at 1/100th second.

By SAMUEL FALK

As told to Gene Goddess

THE TIME: The morning rehearsal.

THE PLACE: Madison Square Garden oval near the Lions Cage.

THE CHARACTERS: Dolly Jacobs—woman lion trainer. Terrell Jacobs—her husband, lion trainer. Me—an innocent lensman on a feature “job.”

DOLLY (to Husband): I wonder who this nut can be coming to the circus four hours before the overture?

Terrell: We'll see what he wants. (Addressing Me.) Well, young man?

Me: My name's Falk. 'Mwith *The*

New York Times Wide World Photos. I wanted to make a feature layout of your animals.

Terrell: Sure, go right ahead. (Starts to go.)

Me: You're not going to leave me alone with the lions? (I start to scam.)

Terrell: I thought that's what you wanted.

Me: I only wanted to get into the lions' cage with you.

Dolly: See! I told you he was a nut.

Terrell (ignoring her): You're not afraid?

Me (first gulping and then recovering) : Err . . . Ahhh. You're not afraid. Why should I be?

Terrell: We'll find out. (Opens cage door, walks right in.)

Lions: Roar, roar, roar-rr.

Terrell: Guess they don't like your camera.

Dolly: Or him, either.

Me (looking back): Have you got plenty of guns?

Terrell: Sure, let's go in.

Me (quiveringly): Yah, and here I follow.

Dolly slams the cage door shut; and starts to leave the scene.

Terrell: Dolly, where're you going?

Dolly (nonchalantly): For a doctor, an ambulance, and a straight jacket. Will that be all?

Me (hopefully): Maybe she better stay near that cage door in case I want to get out in a hurry—to get more film or something.
(Curtain.)

* * *

That was only the start. Little did I realize that I would have half the life scared out of me before the day was through. It was a feature assignment, and I was out to get unusual shots . . . not just run of the mill animal pictures, but spectacular, wild animal action closeups—that was what I wanted.

The animals were armed with teeth and claws. Terrell, their trainer, had a long whip, two pistols and a club. All I had was a Speed

Graphic, Kalart synchronizer and some medium size flash bulbs.

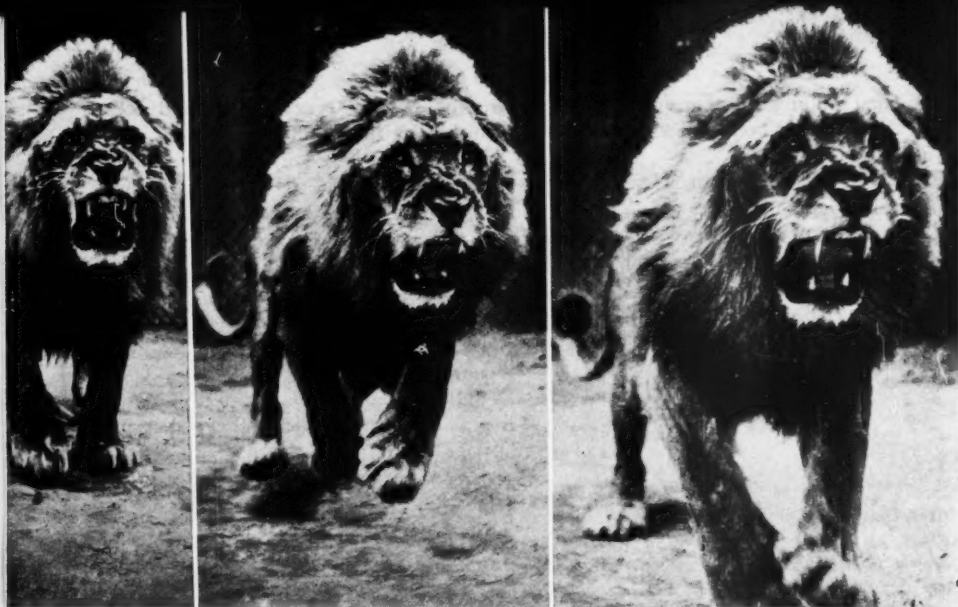
I had seen the act once before. I knew what to expect. Matter of fact, it was I who suggested to the assignment editor that this would be a good feature. Terrell and Dolly Jacobs, I said, have an animal act that is something quite out of the ordinary. Having convinced the editor, I caught the assignment, and the next morning found me at New York City's Madison Square Garden where the Ringling Circus was holding rehearsal.

It was so early I was still slightly sleepy. The first good lion roar woke me right up. I began wishing the editor had been less gullible about the wonderful pix I had promised.

Usually a job of this sort is covered from the outside looking in, using speed flash bulbs to offset undesired shadows of



● The lions snarled when the first flash bulbs went off but they soon got used to the flashes. When the "King" (left) was directly over the photographer, he stopped and began to roar. The tightrope-walking lion's tail had been caught in the cable lashings. One medium flash bulb, f8 at 1/200th second.



● Leo charges! Sequence shots made with a Robot camera at the Gay Lion Farm, El Monte, California.

bars, wire nets, people, etc. From the outside, the lens is placed between the bars, or centered so that the bars don't show. This yields an effect similar to an inside-cage shot, but then it is impossible to make any shots except of animals on the opposite side of the ring. What I wanted was closeup action—something which exterior shooting would not give. Therefore, I resolved to go into the lions' den.

At first, Terrell arranged to have only one lion in there at a time. He warned me never to turn my back to one of the big "cats". They were full grown mature animals who probably would have clawed me to death in a minute were it not for the guardian-angel-like presence of Terrell and his wife—lion trainers de luxe. For the final precaution, a man was stationed at the cage door to open it for me—just in case! But if the man at the door would be a few seconds slower than an onrushing lion—well, it might be just too bad for me.

I made up my mind that if anything at all went wrong in that cage, if I saw anything that "wasn't in the act", I was going to leave . . . but FAST.

After making a few shots, I lost some of this "jungle fever", but never for one

second in the hour and a half that followed did I feel really comfortable or even semi-safe.

Because of the amount of action which had to be stopped, I used a medium size flash bulb synchronized with a shutter speed of 1/200th second. I decided to shoot from about 10 or 12 feet at f8 or f11.

The animals watched me unceasingly. As the flash bulbs went off in their eyes they snarled at first; later they caught on to the idea and posed rather pleasantly—I might say even vainly? I had hoped to make a few excellent closeups of Mrs. Jacobs with King, a star lion performer. Something of a cat held at bay against one inch thick steel bars—by the dainty hand of a woman. But King played favorites, and time and time again as I kneeled down into the sawdust covered arena to make the shot, King would take an exceptionally vicious side swipe with those murderous claws of his—and the shot would be ruined.

I finally got a shot of Mrs. Jacobs putting King through the routine of riding the back of a horse around the arena and jumping through a series of burning hoops. At first I was afraid that the horse would be attacked by the lion. I edged

toward the exit. But when I saw old Dobbin enter the ring as nonchalantly as though he were going to a bag of oats, I felt better. When I discovered that the horse had a spike-studded collar over his neck to protect him from slight "accidents", I practically relaxed.

The feature bit of the entire act was a tightrope or wire walking stunt done by King. In this stunt the lion walks a pair

nor retreat. He made no effort to leave the ropes. There he stood, snarling. There I stood, waiting. And there Jacobs stood . . . puzzled. Suddenly King turned to me, opened his cavernous mouth and roared until my film shook in their holders. It was too much. I turned and ran for the exit. The "watchman" opened the gate and let me out.

What was wrong? King had caught his



● Roaring defiance, the king of beasts lunges toward the photographer who calmly continued to press his shutter at a rate equivalent to more than 100 pictures a minute. Alga Ultra Speed film, 1/500th second at f/3.5.

of parallel wires. His right feet use one wire, while the left feet use the other wire. The wires are nine feet above the ground, twenty feet long, and are walked by King in one and one-half minutes. Here was the perfect shot for me.

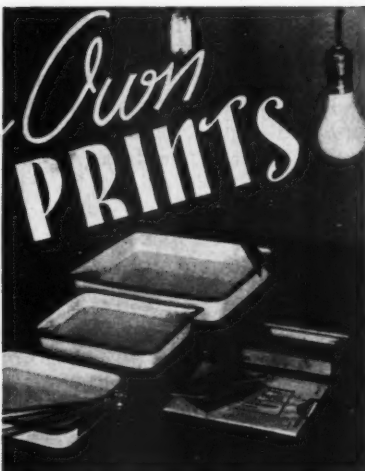
As King started out on the walk, I moved in hoping to get under him for a shot looking up. But I didn't get very far, when Jacobs stopped me. His sharp and practiced eye detected that something was amiss. King would neither go forward,

tail in the cable lashings. With the aid of a ten foot pole, the appendage was removed from its difficulties and the show went on. I returned into the cage and made a nice shot of King on the ropes. If I were doing the job over again, I would have managed, somehow, to get the shot of the lion on the wire directly from underneath.

After a few other shots, we decided to call it a day. As we got out of the cage,

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Make Your



● A typical darkroom setup. The trays, left to right, are: developer, short stop, hypo or fixing solution. The light at the upper left is the red, yellow or orange safelight which is on all the time. The white or "printing" light is an ordinary Mazda, about 50 watt size. Fig. 1

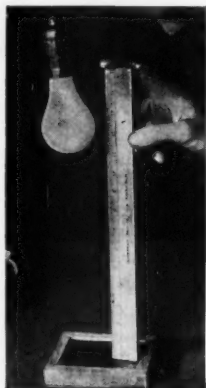
Contact printing is the simplest, least expensive, and most instructive of all introductions to the thrills of darkroom work.

By WILLIAM LYONS

"I WANT to take better pictures," I once said to my friend, Hypo Harry, "but I'm not improving fast enough. What should I do next?"

Hypo Harry looked through the negatives I handed him and said, "It's not taking pictures you want to know about now—but making prints."

Before you could click a Compur, Harry sat down on a ferrotype tin and started to tell me off. "The road to success in picture taking leads through the darkroom."



● Standardize procedure by putting printing light at same distance from printing frame each time work is started. Fig. 2

He picked up one of my negatives, "Take this for example." He snapped a light switch and the darkroom became flooded with soft orange light.

"How can you expect to take good pictures when you don't even know how prints are made?" The safelight's amber glow cast wierd shadows

on the darkroom wall as Hypo Harry demanded, "Do you know what a contact print is?"

Prints, he said, are made by two methods: by contact and by projection. In contact printing, the negative is held against a piece of sensitized paper while a light is turned on to strike the paper through the negative. The result is a print the exact size of the negative.

In projection printing, the negative is placed in a sort of dark lantern which throws an image of the negative just as a slide projector or a movie machine. When this image is thrown upon a piece of sensitized paper, the result is a print larger (or smaller) than the negative. It is called a projection print or an enlargement.

The materials required to make prints from your negatives are really very few. You can start by buying one of the ready-made kits, or assemble the following:

- 3 trays suitable for the size of print desired.
- 1 printing frame. See Figs. 7, 8 and 9.
- 3 packages of printing paper of size desired, single weight (numbers 2, 3 and 4).
- M-Q developer tubes.
- 1 safelight or a 10-watt colored bulb.
- 1 package (½ lb.) acid-fixing powder (hypo).

Also an ordinary Mazda of about 50 watts.

You can get along without, but should have:

3 print tongs.	1 32-oz. graduate.
1 stirring rod.	8 oz. Acetic acid, 28 per cent.

Before beginning to work, a suitable darkroom is necessary. Any room that is fairly lightproof will do. For handling negatives, a darkroom must be absolutely light tight, but for contact printing, a few slivers of light will do no harm provided no rays strike the work table.

At night, printing often can be done without even bothering to pull down the shades, but daylight must be more carefully guarded against. Because of the availability of running water, a bathroom or kitchen usually is selected for the improvised darkroom.

An electric outlet should be handy for the two lights: the darkroom light or "safelight," which is kept on all the time; and the "printing" light, which is an ordinary Mazda which will be switched on and off for a few seconds at a time to "expose" each print.

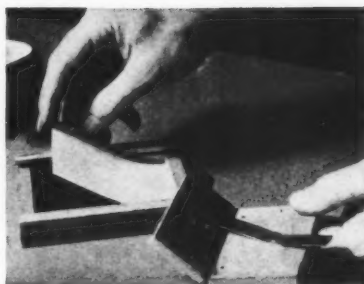
For the trays, shallow soup bowls, borrowed or smuggled from the kitchen will do if you want to experiment before investing. The safelight can be a red or yellow 10 watt bulb. If a regular safelight is used, purchase the orange "OA" slide and it will also be suitable when, in the future, enlargements are made. If you buy a set of print tongs, have each pair different from the others so they won't get mixed up in the dark.

The paper can be of any make of "contact" paper such as Azo, Defender, Apex, Velox, Convira, etc. Get the paper in three contrasts. The usual contrast designations are 2, 3 and 4 in the contrasts you'll want.

Fig. 1 shows the materials assembled ready for work. In the first tray, dissolve the contents of one M-Q in water, following the directions on the tube.

Fill the second tray with clean, cold water. This is the short stop. When making any quantity of prints, you will use acetic acid in this solution. (To 32 ounces of water, add 1½ ounces of 28 per cent acetic acid.) This solution is used for only one batch of prints, then discarded.

The acid-fixing powder (which we will call *hypo* from now on) is dissolved according to the directions on the package and placed in the third tray. The safelight is placed a few feet



● In the darkroom, place a sheet of sensitized paper on the negative. Fig. 3



● Close the frame; expose to white light; turn out white light; and put paper into developer tray. Fig. 4



● Remove paper from developer after 45 seconds or when it appears correct. Fig. 5



● Put print through short stop tray for a few seconds, and then into hypo tray. Now turn on white light and inspect print. Fig. 6



● Paper too soft

● The factors to be determined, whether for a contact print or enlargement, are, (1) paper contrast, and (2) exposure time. The five prints on this page were made from a single negative.

Fig. 10.



● Overexposure

● The print above shows detail throughout, but lacks "snap" or contrast; highlights and shadows are all in one tone of grey. It illustrates a print made from too soft a grade of paper. If paper No. 3 were used, try No. 4.

● The print below illustrates use of too hard a grade of paper. The lighter portions are too light and lacking in detail; note especially the right elbow and background. If paper No. 3 were used, try No. 2.



● Correct

● When the exposure time is too long, as in the above, all parts of the picture become too dark. This calls for use of a shorter exposure time. Always develop the full 40 to 50 seconds.

● Inadequate exposure time, below, resulted in a print too light in tone throughout. Remedy: allow longer exposure time.

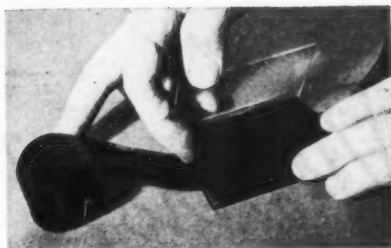


● Paper too hard

● Use of correct paper and exposure time (above) yields a print with good blacks, clear whites, and detail in both the lightest and darkest parts of the picture.



● Underexposure



- Two pieces of glass, hinged together with a piece of adhesive or scotch tape, make a handy book-type printing frame. If white borders around the prints are desired, a mask of suitable size is cut from a piece of dark paper. When making the exposure, one corner is held securely with the fingers so that the negative and printing paper are pressed evenly together. Fig. 7

behind the trays and the white bulb hung over the table where it can conveniently be switched on and off. A table or floor lamp will work nicely.

Put the negative in the printing frame, glossy side next to the glass. Darken the room so that the only light is that from the safelight. Open the package of paper, and if necessary, cut the paper to the desired size. Put a piece in the printing frame, coated side next to the negative, as in Fig. 3, and then put the rest of the paper back into the envelope. The paper curls slightly with the coating or emulsion inside. The emulsion side also looks yellower than the back.

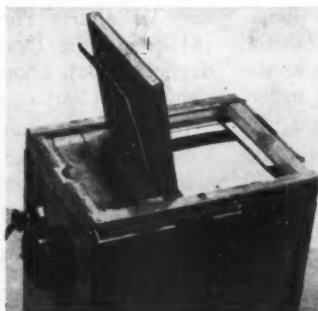
Hang the plain white bulb about 12 inches above the printing frame (Fig. 2) or hold the frame this distance from the regular room light. The important thing about this distance is that you keep it the same to avoid variation. Turn the glass side of the frame toward the light, and expose the print by switching on the light for five seconds. Open

the frame, take the paper out and slip it, face up, into the developer (Fig. 4). If one end of the tray is lifted, and then lowered, a quick rush of developer will cover the print completely, without wetting the fingers. After about 10 seconds the image will begin to appear. Rock the tray gently for about 45 seconds. Then, with the developer print tongs, lift the print from the developer into the short stop in the next tray. Rinse for a few seconds and then put the print into the hypo solution. Do not contaminate the developer with the solutions from the other trays.

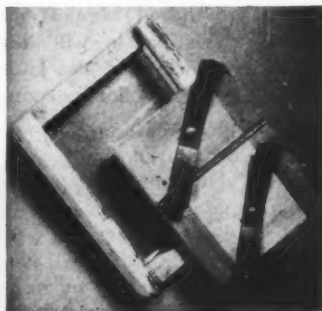
After a minute or two in the hypo, the white light can be turned on and the print inspected. Return the print to the hypo for a total of ten to fifteen minutes. Then wash either in running water for half an hour, or in six changes of water in a tray, each of five minutes. Dry the print either between blotters, linen or cotton towels, or by hanging by one corner.

If your first print is not a perfect one, do not be surprised. Some of the most famous photographers make 10, 20 or more prints of a single negative until the desired perfect print is obtained.

In making contact prints, there are only
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- A home made contact printer consisting of a light box topped with a $3\frac{1}{4} \times 4\frac{1}{4}$ inch printing frame of the type shown in Fig. 9. Excellent contact printers may be purchased for \$6 or less. There also are more expensive models. "Strip Printers," especially adapted for 35 mm. film, print several negative frames in a row. Contact printing paper of suitable width may be obtained in rolls permitting 36 exposures, or more, to be contact-printed on one strip of paper. Fig. 8



- A printing frame is essentially a piece of glass and a spring back to hold negative and sensitized paper firmly together. The type above is made in sizes up to 8 x 10 inches. For printing negatives in roll form, slots may be cut in the sides of the frame. A better arrangement for film in rolls is the book-type arrangement illustrated above (Fig. 7). Or use one of the commercial contact printers which accommodate film in rolls. Fig. 9

Exposure Meters, I

What is an exposure meter? Why use one? Simplest and most economical in original cost is the Optical Exposure Meter.

By HERBERT C. MCKAY, F. R. P. S.

FOR successful photography, the number one requirement is correct exposure. Guessing frequently results in flat, muddy-looking prints or the complete loss of important pictures.

An exposure meter of some sort is absolutely essential. Whichever type of guide is used, the first problem is to learn how to use it and to use it in the same fashion each time for consistent results.

The two chief exposure meter classifications are the (1) optical, (2) photoelectric. This article will describe the optical type, which is also known as the "visual" or "extinction" exposure meter.

In addition, there are "exposure calculators." Strictly speaking, these are not "meters," but tabular or slide-rule forms giving exposure recommendations for various conditions of season, latitude, sunlight, etc. These exposure calculators are used with good success by many photographers. A very simple, yet accurate, system for outdoor exposures was described in MINICAM for October, in "Exposure at a Glance."



● To illustrate the principle of optical exposure meters, improvise one by punching a series of holes in a strip of cardboard. Paste a sheet of paper over the holes. Paste a second sheet over all but two, etc. Held up to a window, the holes will appear successively darker.

Exposure calculators are priced mostly from 50 cents to \$1. They include the Burroughs & Wellcome Calculator (75c); Medo Tri-R Lightening Calculator (75c); the Ashenhurst Photo Exposure Meter (\$1); and the Draucher Calculator for daylight (60c), photoflood (60c), and for photoflash (50c).

In the next group are exposure calculators which utilize "tint" strips. The brightness of a scene is determined by comparing with a series of tint blocks printed on the calculator. Included are the Watkins Bee Meter (\$2.50), and Wynne Meter (\$4).

The Fotimer is a new model of the calculator type. For use in determining exposures indoors, it includes a tint strip. Constructed in the slide-rule manner, the

NEXT MONTH: Photoelectric Exposure Meters, a complete article on how they work and how to use them.

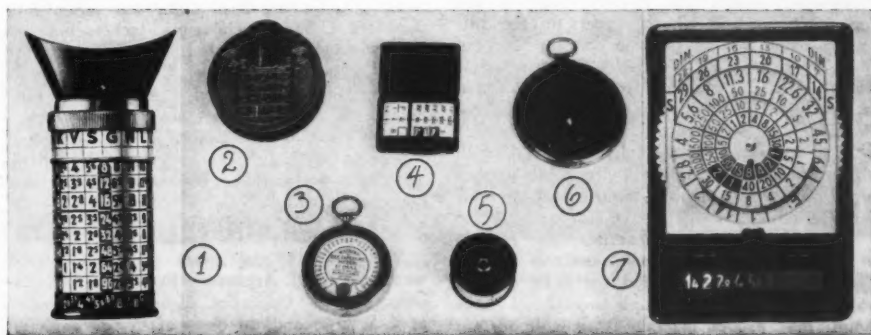
SOME OPTICAL EXPOSURE METERS

Name	Price	Aperture / Range	Range in Seconds	Film Rating System	Film Speed Range (Scheiner)	Exposure Steps in Fractions of a Stop
Ashenhurst Photo Exposure Meter	\$1.00	f1.5 to f32	1/500 to 1 second	Scheiner	14° to 34°	1 stop
Expophot	1.75	f1 to f64	1/1,000 sec. to 30 min.	Scheiner and Din	14° to 29°	1 stop
Instoscope	2.60	f1.4 to f22	1/1000 sec. to 30 min.	Scheiner	17° to 31°	1 stop
Instoscope for Graflex	with case \$3.10	f2.5 to f22	1/550 sec. to 30 min.	Scheiner	17° to 29°	Corresponds with Graflex
Instocine (Cine Model)	2.60	f1 to f45	8 to 96 frames per second	Scheiner	15° to 25°	1 stop
Leudi	\$2.15 with case	f1 to f32	1/1,000 sec. to 25 min.	Scheiner	17° to 29°	
Leudi Cine Meter	2.15	f1.5 to f32	8 to 128 frames per second	Scheiner	15° to 29°	1/2 stop
Lios Scop	3.50	f1.4 to f55	1/250th sec. to 260 secs.	H & D and Scheiner	3° to 30°	1/2 stop
Lumy	2.00	f2.8 to f22	1/1,000 sec. to 6 secs.	Scheiner	23° to 29°	
Maxim	1.75	f1.4 to f22	1/1,000 sec. to 2 min.	Scheiner	14° to 29°	1/2 stop

prices are: Model 55N, with instructions, (\$1); Model N-4ON, (\$1.25); with handbook, (\$2).

Optical meters are made in two general types. In one the subject is viewed through an optical wedge, usually blue in color. This is adjusted until the details of the subject are barely visible. That adjustment sets the scales for the reading.

The second type of meter also is pointed toward the subject, but instead of the subject itself being seen, light reflected from it causes a series of darkening symbols to become visible. The scale is covered with successive layers of a diffusing medium, sometimes plain white paper, each symbol having one more layer than the one before.



• Made to look like a watch were the early optical exposure meters such as the Heyde (No. 2), the Ica Diaphot (No. 6) and the Watkins Bee (No. 3). The latter uses a sensitive paper which darkens when exposed to light. The brightness of the illumination is estimated by counting the number of seconds it takes the paper to match a standard tint. Modern optical meters vary greatly in appearance. The Instoscope (No. 1) is held up to the eye. The favorite of many photographers is the Leudi (No. 4) or the Maxim (No. 5). The newest on the market is the Expophot (No. 7). This illustration does not show relative sizes.

To understand this, punch ten holes in a strip of cardboard. Paste a sheet of paper over the strip. Then paste a strip over nine of the holes, then another strip over eight, and so on. The last hole will be covered with ten strips of paper. Hold this up to a window and the holes will be seen to be successively darker. This is just what the meter has inside it, except that instead of plain holes, each step is some letter or figure for identification.

Such meters are again subdivided in method of use. One type has to be held to the eye and is used like a miniature telescope, the other is held several inches from the eye.

Exposure meters have been known and used for decades, but the meter of twenty years ago bore little resemblance to the one we use today. The earliest meter actually took an exposure on a piece of

sensitive paper. It was in a metal case, shaped like a watch, containing a roll of sensitive paper.

In the face of the instrument was an opening bordered by a "standard tint" a patch of paint, usually gray. The meter was held in front of the subject, facing upward toward the light source, and a fresh area of paper turned into the aperture next to the standard tint. Seconds were counted until the paper color matched the tint.

As the tint was usually a cold, blue-gray and the paper took on a warm brown-gray, the matching was not easy. The meter indicated the comparative brightness of the light sources, that is, the "incident" light. The Watkins Bee Meter (No. 3) is an example of this type of meter.

(Page 73, please)

Photographing The Cover

(MINICAM'S cover photograph, a portrait of Luise Rainer, M. G. M. star, was made in Hollywood by Nickolas Muray with a one-shot camera and reproduced from a Carbro full color enlargement.—ED.)

By NICKOLAS MURAY

LUISE RAINER was one of the assignments which took me to Hollywood. As in any profession, outsiders are usually unwelcome in Hollywood studios but knowing most of the top notch portrait photographers in the different studios, among these, Russell Ball of M. G. M., I always received a warm welcome and cooperation. Mr. Ball turned his studio and staff over to me and Miss Rainer arrived for the sitting on the minute.

Miss Rainer is a charming Viennese with an enchanting accent and a disarming personality, outwardly the most simple and straightforward citizen.

We had a friendly encounter. She refused at first to put on Technicolor makeup because she is always photographed for stills without any makeup. For color photographs I have found that proper makeup is most important and I had a pleasant tiff to convince Miss Rainer on this point. She was as delighted with the makeup as a child with a new toy when she saw her reflection in the mirror. A few rusty and decidedly broken German

phrases helped to put her in the proper mood and we proceeded to take photographs.

According to Mr. Ball's statement I used only a fourth as many flash bulbs as generally used on the Coast. We used the large Super-flash bulbs, two sources in front, one on the side and one on the background. The front main illumination consisted of two bulbs in a single reflector about seven feet from Miss Rainer. A reflector, for the shadows, was directly under the lens. The side source was on the back of Miss Rainer's right, about five feet away and the back light facing the background was directly behind Miss Rainer. The shutter was set at 1/50th second, *f*22. The speed of changing flash bulbs was important; therefore I had special push sockets built in Hollywood that hold flash bulbs not by the usual screw type socket, but with springs.

The sitting took about forty minutes during which time, besides looking at one of the most interesting and beautiful women, I had a nice intellectual treat by constantly talking and listening to Miss Rainer's brilliant and quick repartee.

COLOR PLATE

MINICAM's second cover color photograph was made by H. Armstrong Roberts with Kodachrome in a Contaflex camera, exposure *f*8 at 1/50th second, in clear afternoon sunlight.

The subject was a hunting guide on Lake of the Woods, Ontario, Canada. The 4-color engraving plates were made directly from the 35 mm. (1" x 1½") Kodachrome transparency by Beck Engraving Co., New York City.

\$\$\$\$with your MINICAM

MEET THE BUSINESS PRESS

Groceries, drug stores, beauty shops—business groups, wholesale and retail, all are represented by magazines which buy snapshots of local businesses, personalities and ideas.

By PAULINE REDMOND
Author of "Business Paper Writing"

"We are lousy photographers!"
"Editors keep telling us this and they are very brutal about it."

"However, we sell these fellows 365 pictures a year. And they can't do anything about it. They get all kinds of pretty pictures they can't use. We give them a story with every picture, so they accept, and pay for them!"

THE business press includes hundreds of papers and magazines—monthlies, bi-monthlies and weeklies that are never seen by the average reader. Not sold on newsstands, they are available only within the industries they represent or in library reading rooms. Because the

contents of each magazine is so specialized, a study of its "slant" is easily made.

It is not necessary to be an expert photographer to sell pictures to the business papers. Anyone can do it with clear, sharp snapshots. The all important step is to know what subjects to shoot.

In the beginning, you may expect to do a lot of experimenting. Not in submitting to markets—it isn't difficult to learn definite requirements—but in finding the "just right" subject to shoot. If you are sure that you have a "just right" picture, it will sell.

In the beginning, you select one of the many business fields for your picture-taking experiments. Who reads the business

THESE SNAPSHOTS SOLD —



● Store fronts are always good subjects when they represent a new idea, plan or stunt to interest other storekeepers. Windows are best photographed when lights are on, and store owners also are prospects for such pictures. The above was made with the camera on a tripod close to the curb; Pan film, 1 second at f/8. Fig. 1



● A retail store devised a new, efficient and economical uniform for its clerks. The freelance camera man selected the prettiest girl he could find and sent the snapshot with a description of the idea to the trade paper. Fig. 2



● A dry cleaner used a novel idea to advertise his phone number in an exclusive apartment district. As this idea would interest other dry cleaning establishments, the trade paper was glad to buy a description of the stunt illustrated with a photo. Fig. 3



● A druggist displayed a page from his trade paper on his soda fountain. Enhanced by a couple of pretty customers, the idea sold to a drug trade journal. Taken with the camera on a table, 1 second at f4.5. Fig. 4

Accurate Chart of

<i>Name of Magazine</i>	<i>Editor and Address</i>	<i>Type of Publication and Deadlines</i>	<i>Where to Look For Subjects</i>	<i>What to Photograph</i>
<i>Sporting Goods Dealer</i>	C. T. Felker, 10th and Olive Sts., St. Louis, Mo.	Monthly magazine	Sporting goods stores and sections in dept. and hardware stores.	Special displays of merchandise that would show another dealer how to profit.
<i>Department Store Economist</i>	C. K. MacDermut, Jr., 239 W. 39th St., New York City	1st and 15th; bi-monthly tabloid.	Department stores, large and small. All departments.	Department and window displays that tell a definite story.
<i>Infants' and Children's Review</i>	Crete M. Dahl, 1170 Broadway, New York City	Monthly magazine	Infants' depts., children's depts (including teen age). Specialty shops.	Displays within depts. Windows. Remodeled depts. Pictures of progressive buyers.
<i>Carpet and Upholstery Trade Review</i>	Julien Elfenbein, 1170 Broadway, New York City	Monthly magazine	Floor covering depts. and shops.	Good window displays, outstanding interiors. Buyer pictures always wanted.
<i>Crockery and Glass Journal</i>	John Regan, 1170 Broadway, New York City	Monthly magazine	China stores, departments in hardware, furniture, jewelry, department stores.	Only the most unusual in displays and windows.
<i>Corset and Underwear Review</i>	Louise S. Campe, 1170 Broadway, New York City	Monthly magazine	Corset specialty shops and departments.	Remodeled depts. Original window displays. Stunts.
<i>Notion and Novelty Review</i>	Arthur I. Mellin, 1170 Broadway, New York City	Monthly magazine	Notion departments; art needlework depts.	Well laid out depts. Interesting new developments.
<i>Dress Accessories</i>	Arthur I. Mellin, 1170 Broadway, New York City	Monthly magazine	Handkerchief, neckwear, blouse, or general accessories departments. Jewelry.	Up-to-the-minute merchandising either in store or window.
<i>Fabrics</i>	Arthur I. Mellin, 1170 Broadway, New York City	Monthly magazine	Piece goods departments. Ready-to-wear.	Displays that show ingenuity for attracting sales.
<i>House Furnishing Review</i>	Julien Elfenbein, 1170 Broadway, New York City	Monthly magazine	Houseware departments in furniture and department stores.	Smart merchandising stunts.
<i>Drug Topics</i>	Ed Sagarin, 330 W. 42nd St., New York City	Fridays; weekly tabloid	All drug stores.	Any merchandising stunt that increases sales.
<i>Southern Hardware</i>	T. W. McAllister, Grant Bldg., Atlanta, Ga.	Monthly magazine	Southern hardware stores.	Progressive businesses. Unusual windows, interiors, displays. Fronts. Display fixtures.

12 Trade Paper Markets

<i>Whom to Quote in Articles</i>	<i>Data of Report and Rate Per Picture</i>	<i>Remarks — Do's and Don't's</i>
Owner, manager or buyer.	Don't expect letters. Check will come after publication. About \$1.	Tie-ups with local happenings are always good material if you can show in picture how the tie-up has meant an increase in business. Just news is not wanted.
Executives, occasionally buyer.	Rejections made with fair promptness. Good rate paid after publication according to worth of material.	"I'm sick of 'pretty' pictures," says this editor. "I want ideas for better business." Good seasonal material wanted, but don't bother with purely style windows.
Buyers of depts. Owners of shops.	Material used fairly promptly; $\frac{3}{4}$ c per word and \$1 per picture from 6 to 8 weeks after publication.	Pictures of remodeling must show some innovation for better business. "We like material that will make our readers eager to do something unusual and original in the promotion of sales." Buyer pictures with news item.
Buyers, merchandise managers.	According to its timeliness; material used promptly. \$1 per picture.	Unusual slants, new policy that has boosted sales. Uses features with several pictures to illustrate various points.
Buyers, managers.	Rejections made very promptly. $\frac{3}{4}$ c per word, \$1 picture, after publication.	Good feature material may be illustrated with picture of person interviewed and one or two others to prove outstanding points. Better query the editor.
Managers, buyers.	Will answer queries. \$1. $\frac{3}{4}$ c per word. News in by 19th.	Will not buy manufacturer's displays. Buyer pictures and activities are wanted at all times.
Buyers, merchandise managers.	Prompt use if according to editor's wishes. Query on long features. $\frac{3}{4}$ c per word, \$1 per picture.	All pictures must be accompanied by story of value to the industry. Informal shots of company buyers or merchandise managers also wanted.
Buyers of the various departments. Merchandise managers.	Prompt use, but limited market. $\frac{3}{4}$ c per word, \$1 picture, after publication.	Unusual displays that show originality. Short news items of company buyers with informal snapshots.
Buyers of piece goods departments. Ready-to-wear buyers.	Limited market for outstanding material. \$1.	Remember that the contents of any business paper is tuned to merchandising at least 60 days ahead—this means your material must show, for example, a Christmas plan for the September issue.
Buyers, managers.	Fairly prompt use. \$1. $\frac{3}{4}$ c per word.	Not interested in furniture, but bath shops, kitchen shops, electrical shops in housewares departments are all promising. News and pictures of buyers wanted.
Owners, managers.	\$1 to \$2 according to worth, one month after publication.	When you become familiar with this field you will spot a progressive druggist at once. Any idea that will lend itself to illustration is good. Query if in doubt. Don't send pictures unless they have helpful value.
Owners.	From $\frac{3}{4}$ c per word, pictures extra. Immediate response. Prompt use.	Distinctive methods of merchandising illustrated preferably with action shots, to tie in with subject matter.

papers in that field? Though you sell pictures to an editor, it is the reader who must be pleased eventually.

In the table on the previous pages you will find that a certain magazine you select pays for "buyers" pictures. A buyer is not a customer who buys a tuxedo to wear to an important function, but a store owner or manager, a wholesale buyer.

For this type of picture, only the head and shoulders are necessary. Some magazines are not interested in publishing pictures of people—no person is sufficiently important to rate space. Don't waste your time and the editor's by submitting pictures of people to such markets.

You may wonder why an editor would want to buy a picture of one person. You live, perhaps, in a small city. Why, you ask, should anyone in your small town be of sufficient importance to have his picture published in a business paper, published as it is, for a nationwide audience?

The answer is: Every man, wherever located, is important to his industry—particularly if he has an idea.

Many business papers publish pictures of prominent people, leaders in their field, together with a hundred or so words, giving a short account of the reason this person is outstanding in his trade or industry. It is possible by studying these fields and their publications to select the leaders who might be eligible. Or a photographer may "query" various editors by writing to request whether the magazine would be interested in certain pictures which he can obtain.

Another group of papers uses the same head-and-shoulders type of picture of men and women who are news in their field by virtue of some change in position, or some outstanding local achievement.

Yet another type of "people picture" depicts an idea. The person is of no importance in the picture as a person, but only as he helps to put over an idea, as in Fig. 2. The idea is that of the merchant who did not believe in making his girls wear a starched uniform, but wanted them to stand out as workers, not customers, in

his store. He designed a comfortable dress of distinctive pattern. Naturally the picture would lack all interest if the dress were photographed lying on a table; it needed the girl to complete the idea. Her name isn't important in the caption, only the name of the store and its proprietor.

Certain business papers are interested in hobbies. That is, the readers are interested in learning of the hobbies of others in their line of work. When taking a picture of this kind, the man is of second importance, first interest is the hobby itself. Therefore, take a picture of the man actively engaged in doing the thing his hobby represents. If he collects snakes, a picture of the man would not be sufficient, nor a picture of the snakes. But a picture of the man feeding his snakes would be interesting enough to hold attention.

In delving into this subject, the picture enthusiast should be aware of the purpose of the business press. In order to know how to make an intelligent selection of subjects the first thing to know is that business papers exist for the sole purpose of helping their readers. Your pictures must serve the same purpose.

One editor says, "I'm sick of seeing 'pretty' pictures. To get into my book a picture must say something that has not been said before."

As you look for the purpose of the publication itself, look for the purpose behind any thing or any idea you have in mind for picture taking possibilities. You see a beautiful window display. Can you analyze it, and the reason for its existence. Can you look at it from within, instead of only from without? In other words, can you find the one thing about that window display that would be of help to another window decorator, or store manager?

Find that reason. Aim your camera directly at it, and you cannot go wrong. Ask yourself why you are taking any picture, aim at the answer.

First, however, be sure you have a market. There is no point in sending in pic-

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Monthly PICTORIAL ANALYSIS

Conducted by

J. GHISLAIN LOOTENS, F. R. P. S.

PORTRAITURE is the most difficult phase of photography, that is—good portraiture. More than a photograph of a person, it catches something of the personality as well as a living likeness of the individual.

There is something definitely personal in good portraiture which is never experienced in landscape or other photographic work. The man who concentrates on landscapes has a much easier time, because, after all, if his negative does not turn out exactly as planned he can always forget it, but when you commit yourself to portraiture the sitter depends on you to make good, which can be embarrassing, as many amateurs have found out after a family sitting.

To be a good portraitist, it is necessary to be a master of your craft. The matter of correct lighting must be at your finger tips, the operation of the camera and similar studio procedure must be as mechanical and natural as walking. It is absolutely essential that all technical and mechanical operations are under complete control, requiring no mental effort on the part of the operator. All our attention should be devoted to the handling of the sitter so that the finished portrait will show his personality plus a pleasing composition.

If your mind is preoccupied with lighting, focusing, and exposure troubles, it is impossible to do justice to the individual who has consented to sit for you. One of the secrets of good portraiture is to make your subject feel comfortable and relaxed, but how can this be achieved if you your-

self are uncertain and ill at ease? It is surprising how your own mental attitude can be reflected by the sitter; if you can honestly inspire confidence, your subject will reciprocate and the job will be a success.

Now if a single portrait study can present a certain amount of difficulty, how much more so is this the case when we attempt Grouping. For, Grouping is actually the arrangement of a number of individual portraits in one picture. All the difficulties encountered in one portrait are thus multiplied. To be able to handle groups successfully, one must be at home in the art of everyday portrait photography.

A group study, worthy of the name, must do justice to the portrait of every individual present, yet be so posed that the whole results in a harmonious arrangement. Handling many individuals will test your mettle as a technician and tax your ingenuity as a composer. In ordinary portraiture, most pictures show only the face—the hands and the greater portion of the body not being visible. This makes for ease of handling and is one of the reasons why photographers avoid studies showing the whole figure. In Grouping, the face of every individual must not only be properly lighted, but a suitable pose must be found for each figure. You must have a logical place for all present and manage to arrange arms and hands in interesting lines which enhance the composition.

The contour of the face and height of the subject, as a rule, will determine his location. A skull of normal contour, or

a face which photographs well, should be located nearest the strongest light. A good profile should be shown to advantage and can be taken from a steep angle. Those of the group who photograph best in plain light can be placed further away from the light. A group picture at its best shows practically every face from a different angle and with a separate treatment of lighting for each. As to sitting, ordinarily we request the tallest to be seated, the shorter ones to stand up. This is of greater importance in small groups; if the "short ones" are seated and the tall stand, we exaggerate the existing differences instead of eliminating or minimizing the trouble. While in modern compositions, figures are at times deliberately posed gazing in all directions, for the best effect it is wisest to concentrate the interest in the same direction.

Further to complicate the matter of grouping, the number of figures present is a serious factor. Roughly speaking, the even numbers are harder to handle than the odd. For example, three figures make the group most easily and harmoniously arranged, while five and seven are also comparatively simple. But two, four, six, and eight individuals may make an awkward arrangement. And of all these, it is conceded that a group of four is one of the toughest of the lot.

But regardless of the number of figures (up to a dozen), the pyramid form of composition will lend itself best to group posing. In arranging this form, the

photographer with imagination can give an individual touch to the placing of his models, the basic idea (as stated) being that we should have variety in placing the heads and figures, while at the same time

retaining unity by having a common bond of interest.

IN this study of the "Mischakoff Quartette," by Dr. Max Thorek, F.R.P.S., F.R.S.A., we have a very clever arrangement in grouping four figures. It is immediately obvious that the pyramidal form has been followed, the two lower figures acting as a base, with the apex ending in the tallest figure. Ordinarily, the tallest figure may easily capture too much attention, or those in a central position may dominate. However, every group should tell its own story and requires a suitable composition. It would not seem proper in posing a musical quartette to feature one player too much in contrast to his fellow musicians. In an organization of this type, it is the aim to blend the music to form a harmonious whole—therefore, every man should be of equal importance. And this idea has been well demonstrated by Dr. Thorek.

Music is the most important thing in the life of these artists. It seems, therefore, logical that Dr. Thorek has made this the central theme. This is the motif around which the composition is built. Notice the manner in which every line, every gaze, is directed towards the all important musical score. It is quite natural for a quartette to be engaged in a consultation as to the proper interpretation of an important passage. No one seems to stand out to the detriment of any one else. It is only when we study closer that we realize how cleverly each man gets his just due, and yet fits in harmoniously as a necessary part of the composition.

For example, realizing that the music, numbered "1" in the sketch, left, is the center of interest, musician No. 2 derives importance from the mere fact that he is holding the score. Also, he is made to stand out because his is the only profile. But No. 3 is obviously the director, the head man, so to speak. Every man seems to listen attentively to his words; this alone would make him a strong factor. In fact, if he had occupied any one of the other positions, he would



• Numbers refer to parts of the composition on the next page.



MISCHAKOFF QUARTETTE

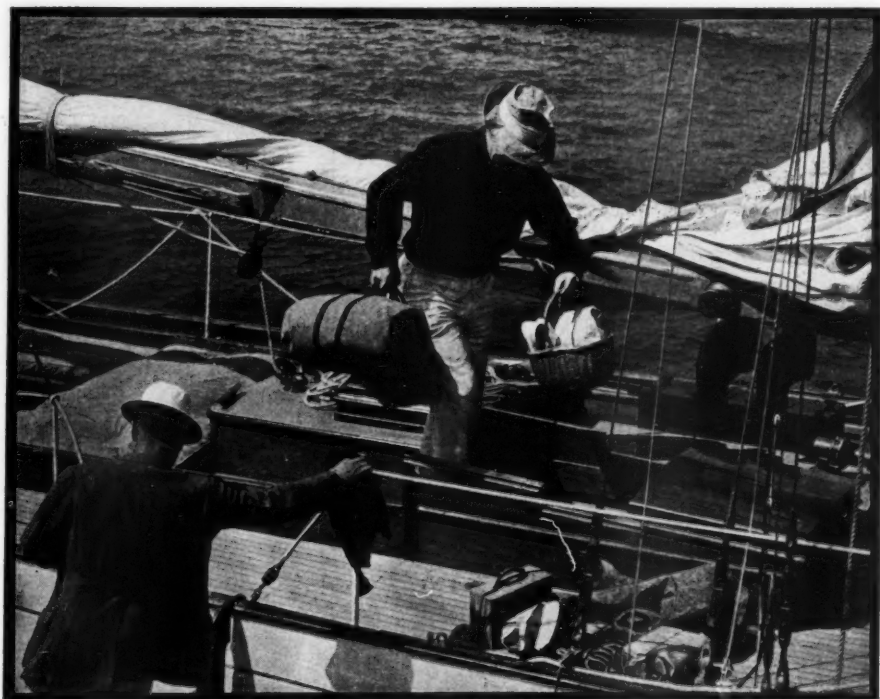
By DR. MAX THOREK, F. R. P. S., F. R. S. A.

actually have dominated the picture too much. He can be placed in a comparatively subordinate location as his rank alone suffices to draw attention.

The figure numbered "4" cannot fail to receive individual attention as he occupies the tallest position of the pyramid,

a spot to which the eye always will be directed. Therefore, he is kept in a much darker key lest intensive light lead to over-emphasis. And finally, No. 5 balances the arrangement in two ways: first, he receives the strongest light on the face,

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● A 12-diameter enlargement from a 35 mm. negative developed in Champlin 16, 8 minutes at 73°. Contax camera, Sonnar f2 lens, 85 mm, 1/250th second at fill. Taken at 12:30 p. m. in October, Weston 200, Agfa Superpan film, new type.

WHY CHAMPLIN 16?

What is a fine grain developer? The creator of a famous developer tells why he sought—and succeeded in producing—an improvement over Formula 15, hailed by many as a perfect developer.

By HARRY CHAMPLIN

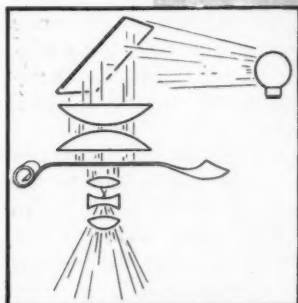
Illustration by the Author

THE difference between a modern fine grain developing formula and one of the ordinary variety is as great as the difference between a Leica and a box brownie. We all know that some pictures are grainy and some are not, but the majority of people using little cameras have no real understanding of the process of development and the difference between fine and coarse grain structure.

Film consists chiefly of silver nitrate and a bromide imbedded in gelatin. This film is placed in your camera and, when a light image formed by the lens falls upon this film, a change takes place. We do not know what that change is, although we do know that something happens.

After the film has been exposed in the camera, it is placed in a combination of chemicals called a developer. The de-

argus PRESENTS CONTROLLED COOL



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Graflex 4x5, F4.5.	95.00
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← NATURAL COLOR PRINTS →


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veloper has the property of penetrating into the gelatin and separating the silver, which was affected by light, from the bromide. The bromide is thrown out and the silver is blackened. After a certain period of time during which the developing solution has been acting upon the light-affected image a perfect negative image is formed.

The developing solution has blackened the silver in direct proportion to the amount of light which fell upon it. In other words, the highest lights of the image are very black, while the blackest shadows are not affected at all.

When the film is taken out of the developer it is put into another bath for fixation. The purpose of this bath is to eat out all of the bromide in the emulsion. After the film is fixed it is washed and dried.

The silver used in the manufacture of film is microscopically fine and, if that silver were to remain unchanged in size, there would be absolutely no problem concerning grain structure. During the process of development, however, certain chemicals used for this work create a turbulence within the gelatin structure with the result that the silver grains are dislodged from their original position and whirled into little groups. This grouping is called clumping and it is these little clumps that cause all the trouble called "grain".

Other chemical combinations create much less disturbance in the emulsion in the process of development with the result there is considerably less clumping and the negative is therefore fine grained. There is more to fine grain developing than this. Developing solutions which act violently create less tone quality than do fine grain developers. Tone quality is an absolute necessity in little negatives because they have to be enlarged so much. Tone quality in a negative means that a scene will have life and sparkle with delicate shadings and brilliant highlights.

Ordinary developers are meant for large negatives and since the prints of large negatives are never enlarged to any great extent this lack of tone quality is not ap-

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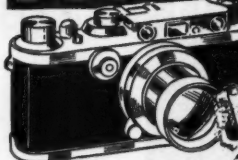
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parent. The greater degree of enlargement, the more delicate the separation of tones in a negative must be, and so we can say that a fine grain developer is essential for small negatives because the grain structure is finer and the tone quality is greater. The fineness of grain structure and delicacy of tone values depends upon the composition of the developer and the characteristics of certain chemicals used in it, chiefly the reducing agent.

For several years paraphenylenediamine has been strongly recommended as the reducing agent in fine grain developers. The reducing agent in a developer is a chemical which penetrates into the emulsion and attacks the silver and bromide and then reduces the silver to its blackened state. Paraphenylenediamine is an unstable chemical, which means that you cannot depend too greatly upon it. It has several bad features: it stains everything with which it comes in contact, it is poisonous to some people and overdevelopment with the developer containing this chemical is likely to create too much contrast.

Another chemical used in fine grain work is glycin. Glycin is a little more stable than paraphenylenediamine and is generally combined with that chemical because of its preservative action. Paraphenylenediamine and sodium sulphite make a developer which requires considerable over-exposure in order to produce normal negatives. Glycin when added to such a developer decreases the amount of

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over-exposure necessary for a normal negative.

Metol is a reducing agent of great energy and its use in fine grain developers is likely to create some coarsening of the grain structure. Metol decreases still further the amount of exposure necessary and developers have been made with these three agents which gave normal negatives with normal exposures.

Hydroquinone is not recommended for fine grain work because it is incompatible with paraphenylenediamine and it creates more clumping of the grain structure than almost any other reducing agent.

Pyro, another reducing agent, is one of the oldest used in photographic chemistry. Its action is peculiar because it does actual developing of the silver image in the ordinary manner and more staining of the silver image. In other words, a pyro negative has in place of the blackened silver image we are accustomed to see more of a stained image which can be either yellow or yellowish-green in color.

Two chemicals recently introduced for fine grain work are pyrocatechin and chlorhydroquinone. Pyrocatechin is closely allied to pyro, but unlike pyro it has a tendency to soften the gelatin structure to such an extent that slightly increased temperature may cause reticulation of the emulsion surface. Reticulation is bad and once it happens nothing can be done about it. Chlorhydroquinone is closely allied to hydroquinone; it has many of the values of that particular chemical and none of its faults as far as fine grain developing is concerned.

Now we have said that tone quality and fine grain structure are two features which every fine grain developer should possess. The third feature of importance is emulsion speed. Emulsion speed means that you should be able to give a minimum exposure and full development without building up too much in the highlights and too little in the shadows. In other words, perfect tone quality should be attained without sacrifice whatsoever of the speed rating of the film you are using.

Emulsion speed is greatly misunderstood

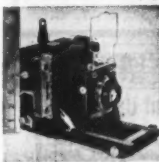


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by many people. There are two types of emulsion speed; one builds up highlights first, then after prolonged development the highlights become denser, while the shadows remain as they were.

Suppose that we were photographing a scene where there was great contrast. Such a scene might include a sun-lit building with an entrance in shadow and two people inside talking. A negative exposed upon such a scene and developed in the first type of solution would build up an image of the light-colored sunlit building first and long after that image had become very dense the faint details of the people in the entrance way would appear. Such a negative would be contrasty and extremely difficult to print. Remember that contrast is extremely difficult to decrease and extremely easy to increase in printing.

In the second type of developer, however, the same exposure would have all the details; the building, the entrance way, and the people, appear almost simultaneously on the negative and as the development time is lengthened, the contrast between the different densities of highlight and shade would be increased. With this type of developer you will always have a fair amount of shadow detail regardless of how much or how long the negative was developed. The first negative would require printing on the softest grade of paper while the second could be printed on a normal paper.

Formula 15 was a new departure in the fine grain developer because it built up a fair amount of shadow detail before building up excessive contrast and, also, it had more emulsion speed which permitted relatively rapid exposures, but analysis of the formula itself will tell you that it contains paraphenylenediamine, glycine, and pyro, and a study of the instructions for the formula will show also that the developer is to be used over and over again. Now using any developing solution more than once is not a good plan. The reason why it was done was simply a matter of economy because very few people can afford to mix up a developer or buy it ready mixed, use it once and throw it

away. The developer which is used over and over becomes saturated with silver and bromide which are thrown out of the film during the process of development. Then, too, there is a change in the alkaline acidity value. A developer works best when it is alkaline. The process of development gradually changes the solution from alkali to acid. The combination of silver, bromide and acidity are bad on all reducing agents, but especially so upon paraphenylenediamine. Hence we have a decrease in the power of the solution to develop all of the light-affected silver in the negative.

This means that with continual use of a developer, more and more original exposure is needed for a negative of normal density. This is true of all developers regardless of their composition, but it is more pronounced in developers containing paraphenylenediamine. It has never been my misfortune to suffer the loss of negative material due to this fault in Formula 15 because I have never developed beyond the capacity of the developer. The average amateur is not so careful and human nature being what it is, a developing formula had to be compounded with these human frailties in mind.

Formula 16 contains no paraphenylenediamine or glycin. It is a concentrated developer which is mixed with nine parts of water and the mixed solution is used once only, then discarded. However, considering many people will in the interest of economy attempt to develop more than one roll of film in the solution, a developer was compounded so as many as four rolls could be developed in one and one-half ounces of concentrated developer which has been diluted to make sixteen ounces of working solution.

There is one major difference in the results produced by Formulas 15 and 16. With Formula 15 there is some latitude in developing times for special effects. For example you can overdevelop as much as 40 per cent in order to increase contrast in subjects such as airplane photography, copy work, etc. You can also underdevelop as much as 20 per cent in order to com-

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pensate for extreme differences between the highest and lowest lights in a scene. Such under-development must of course be coupled with over-exposure for shadow detail. You can do all of this with Formula 15.

Formula 16, on the other hand, is radically new in its ability to record highlight and shadow detail in the correct relationship as seen by the human eye. No highlight will be so dense or shadow so thin that detail will not be present, unless the highlight was so glaring and the shadow so black that the eye could see nothing in them. The developing times with Formula 16 are less than half of what they are with Formula 15 and developing times must be rigidly adhered to because over-development will create great density and some increase in the size of the grain structure. You can under-develop Formula 16 as much as 10 per cent for cases of extreme contrast.

The grain structure given by the two developers is likewise different. The grain structure of Formula 15 is excellent but the grain structure of Formula 16 is, according to laboratory tests, finer and more even than the grain structure gained by any developer so far compounded. The grain structure is so fine as to be almost comparable with the original silver in the emulsion.

The temperature of a developer is a highly important item. It is the opinion of this writer that Formula 15's greatest disadvantage was the fact that it was a laboratory product and temperature had to be maintained at an exact level. In fact, Formula 15 was one of the most exacting developers offered the general public. The temperature was from 70°F. to 73°F. Higher temperatures endangered the gelatin emulsion. Lower temperatures meant under-developed negatives.

Formula 16 was compounded with the amateur photographer in mind and the usable temperature range set for it ranged between 64°F. and 81°F. This temperature range was found after an exhaustive check to be the most desirable for both summer and winter conditions throughout

the United States. Here again, human nature was taken into consideration, for negatives developed in Formula 16 will not suffer at 60° F. or 85° F. and with extreme care films can be developed beyond 90° F. At the present time, there is a wave of developers claiming high temperature possibilities. All of these developers have been tested and generally speaking high temperature control has been obtained at the sacrifice of other more desirable qualities.

The best temperature range for any developer is between 65° F. and 80° F. Formula 16 is superior to Formula 15 because it can be used within this temperature range.

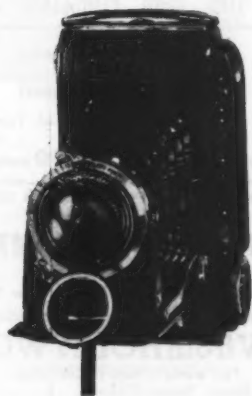
A short developing time is another desirable feature for a developer because with the time, for example, of eight minutes the developer will have received adequate agitation, whereas with a developing time of twenty minutes the photographer might become interested in something else and forget agitation for five or even ten minutes. Agitation should be used with every developer because after the film has been setting in a developer for a while the developer around it becomes stagnant and overworked. The agitation replaces that stagnant developer with fresh solution. These are salient points of the differences between Formula 15 and 16. Concerning Formula 16, I can only say for the first time in my life, I feel a great freedom as the result of the fact that every roll developed in this formula will be exactly like the rest.



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Hurricane

(Continued from page 18)

verance and "get that picture" attitude of the news cameraman.

Morgan had been up all day and part of the night covering a number of local assignments, and had finished developing his negatives of his last story—the shutting off of power on a New York subway line due to flood conditions—when he was told to stand by and prepare to go to New Haven on the 1:30 A. M. train, and from there go by car to Hartford. With him went Karl Clough, a wirephoto operator, lugging a portable photograph transmitter and all its accessories. The ride to New Haven took nearly four hours. It is ordinarily a one hour and forty-five minute run.

Into a car at New Haven, they loaded their equipment: one case loaded with film holders and bulbs; flash synchronizer; tripod; paper for writing captions; a portable wirephoto transmitter; a battery; a package of envelopes; extra film and bulbs; and a bottle of developer and one of hypo.

They were ready for any emergency and a trip to test any man's mettle. Hundreds of fallen trees, telephone and telegraph poles meshed the road all along the way, and necessitated mile long detours. Not a wink of sleep in 24 hours (with the exception of a catnap on the train), and the work has not yet started! Another 24 hours would pass before they finally could doze off in comfort! And food? Well, maybe—on the run.

At Hartford they found a scene of turmoil and anxiety. Hundreds of WPA workers and volunteers were building sandbag dikes along the banks of the roaring Connecticut river. Flood refugees poured in from the outlying sections for refuge in schools and armories.

To reach the scene of the worst flood danger, Lensman Morgan had to leave his car a mile away, and go on foot, splashing through shin-deep water wearing only rubbers and "city" clothes. Fortunately that day—the 22nd—was clear, but the next! It rained again! Morgan was

soaked to the skin while plunging through pools of water to get his flood shots. Each batch of pictures meant a return trip to the office of a local correspondent where the wirephoto equipment had been set up. Morgan had to develop and print, and then arrange for expediting the original negatives and prints back to New York. That meant a ride back to New Haven.

In spite of all the trouble he encountered, his shots of the men feverishly building the dikes were unusually fine. He used Agfa Superpan press, and for general views shot at 1/20th second, and stopped down to f/16. For closeups, he used 1/75th at f/8.

In the other sectors, Boston, Worcester, Providence, Newport and Westerly, stories of daring, tireless news cameramen everywhere were the same. For 48 to 72 hours the lensmen kept on the scene of the story undaunted by nature's fury and the odds against them to give the world a complete pictorial account of one of the nation's worst tragedies.

Window Shopping

(Continued from page 35)

bringing it to eye level or waist level, as the case may be, and making the exposure with the least delay. Often it will be possible to work from the shadows and gain inconspicuousness that way, but in most cases it will be a matter of standing one's ground in the middle of the sidewalk despite human traffic going both ways. In the quiet streets this "traffic" difficulty will not be encountered.

Viewing life through store windows is the most fascinating feature of through-the-window photography. Not only may you photograph in natural, characteristic moments the activities of persons on the inside of the shop, but outside as well.

This latter is really easy, being effected by shooting through two windows set at right angles to each other at subjects such as window shoppers gazing into one of the two windows while the photographer is shooting diagonally at them through the other window.

While night is the best time for window pictures for the same reason that it is

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Super Sport Dolly coupled Range Finder F2.8 Tessar	49.50
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preferred by the commercial photographer, namely, to avoid reflections of street activity, daytime window pictures are not to be overlooked. Even where reflections do appear in the glass these often provide the picture interest in a way not possible at night and offer an attraction that is not to be resisted.

To get reflections in focus, stop down to as small a lens opening as possible. Moving further back from the window also aids getting both the immediate foreground subjects and the distant reflection in focus.

To eliminate undesired window reflections, use a polarizing filter on the lens.

Through-the-window picture-making is not limited to stores. Often it is possible to take pictures through your own windows at home of subjects in the street or in homes across the way. Discretion is the watch-word, of course, but who can resist the opportunity offered in such a subject as that illustrated in "At Ease?" Especially when a telephoto lens is handy and, because of the quiet pose, a time exposure is possible. In pictures of this type you will generally find it more effective to include the frame of the window through which you are shooting or make it clear in some other way that the picture is being made through a window. There is nothing to prevent your making a shot without including the window frame, of course, if the subject-matter inside can stand on its own feet. The window in such cases will be utilized merely as a convenient vantage point to get a down shot of a subject.

The principal charm of the through-the-window picture lies in the fact that it provides with a definite frame a bit of life or pictorial composition remarkable for its atmosphere of intimacy and simple story-telling quality.

Darkroom Apron

A rubber housewife's apron costs only a quarter, but makes a dandy darkroom apron. Looks kind of OO-LA-LA, but who sees you in a darkroom?

Exposure Meters

(Continued from page 52)

The first meter to enjoy widespread popularity in this country was the "Jus-tophot," a visual extinction meter which was aimed at the subject and the adjustment moved until the distinguishing character was obliterated. It was an improvement over such instruments as the Heyde and Ica Diaphot, which were merely optical wedges rotated before the eye.

The latter meters represented a step in advance, as they measured not the light falling on the subject, but the light reflected by the subject.

The brighter the light, the deeper the depth of density which is visible. This gives an indication as to the brilliance of the light reflected from the subject.

The methods of calculating the exposure following the actual reading is a mechanical detail which changes with each meter. Rotating scales of some kind are used to translate the reading into photographic exposures. One meter uses letters not in alphabetical order to insure that the least visible symbol will actually be used, as knowledge of the identity of the next character in regular systems deceives the user into a belief that he can read it.

It is the desire of every amateur to own a photoelectric meter, yet it is surprising to learn how many owners of the electric type actually use a visual meter. This is not caused by superiority of the visual type, but because it gives consistent satisfaction and is much cheaper and smaller than the electric type, and will give readings in very dim light.

To attain confidence, speed and accuracy with an exposure meter, make it do a little "home work." Take the exposure meter to work with you, or out for a walk, leaving the camera at home. Measure everything in sight: people, buildings, autos, landscapes, etc. First guess. "Oh, about, I should say, perhaps $f7$ at $1/50th$," you will say. Then use the exposure meter.

This exercise will provide fun in guessing and facility in measuring correct exposure under varying conditions.



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contains the most complete flash and flood tables ever issued on the correct use of all SUPERFLASH and SUPERFLOOD photolamps with Agfa, Defender, DuPont, Gevaert, Kodak and other films. Ask for your copy at your dealer's or write: Dept. 20, Wabash Photolamp Corp., Brooklyn, New York.

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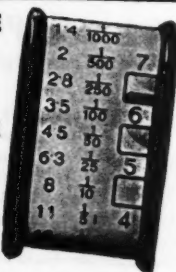
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Photrix Calculators

Two calculators, the one for determining exposure time in enlarging, the other for picture-taking, have recently been added to the PHOTRIX line of equipment.

The Photrix Enlargement Calculator is designed to find the required enlarging time after the light emerging from the lens of the enlarger has been measured with the Photrix Photometer or any other light meter which is suited for this purpose.

The calculator in combination with the Photometer determines the required enlarging time by means of a photocell, i. e., without the aid of visual comparison.

Once the emulsion speed of the paper is known, the calculator takes care of the density of the negative as well as of the magnification. The picture size scale extends up to prints of 40" x 60", which will be found especially valuable in making blow-ups. The exposure time scale goes from 10 minutes down to 0.15 seconds, such fractions of seconds being feasible by means of the Photrix Electronic Timer. The variations in exposure time required to allow for flat or contrasty negatives are taken into consideration by marking lines engraved into the celluloid pointer.

The Photrix Exposure Calculator is to be used to turn any light measuring device into an exposure meter for photography. It is meant in particular for those light meters of high sensitivity which the photographer must resort to where pocket-type exposure meters fail to indicate. In order to allow the evaluation of low light readings as obtainable with the Photrix Photometer, the light scale of the calculator goes down to 1/40 of a foot-candle so that exposure readings in a city street at night are now entirely possible.

The Photrix Calculators are executed in etched aluminum with long scales and clear figures, the turnable disc measuring 3" in diameter and the base plate 4" x 4". They fit into the lid of the Photrix Photometer and can be fastened to it by thumb tacks or wood screws.

The Photrix Calculators are distributed by the International Marketing Corp., 8 West 40th Street, New York.

Dust Control

When enlarging, there is no problem more serious to the amateur than the control of dust and dust spots on the negative. Dust spots, or small transparent spots caused by dust on the film at the time of exposure, can be kept to a minimum or totally eliminated by using factory loaded spools in the camera and by keeping the camera free from dust.

Dust on the negative is a far different and more difficult problem, for the very nature of the film retains dust. In dust control there are essentials which, when observed, will do much to eliminate the trouble.

1. Dust on the face of the condenser will not give rise to spots on the print if the condenser is not in contact with the film.

2. Pressure plates should be eliminated, as the more they are cleaned the greater is the attraction for dust.

3. Film gates should be protected within the body of the enlarger and not exposed to dust accumulation on the work-table.

4. The film itself should be dried dust-free. Dust

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accumulated upon dry film may be removed by blowing sharply upon the film or by gently wiping with a soft brush. Brisk brushing generates a static charge which attracts more dust.

Dust control therefore resolves itself into three phases: drying negatives dust free, removing incidental dust from the dry negative, and the use of an enlarger which has been especially designed to facilitate dust elimination.

The new Simmon Automatic Film Drier insures negatives dried free from dust. Careful operation will cover the second point and the Simmon Omega enlargers will supply the third essential factor.

Simmon Omega enlargers have a lamphouse designed to keep the condenser face out of contact with the film, yet place it in a position to facilitate ease in cleaning. The Omega film holder has no glass pressure plates (although if desired they may be obtained on special order only for the 4 x 5 model), and the film gate is an integral part of the enlarger. The film is pushed through the gate from side to side, and although it moves freely, it is held perfectly flat in the focal plane by the patented gate.

Further details from Simmon Brothers, 37 36th Street, Long Island City, N. Y.

New Lafayette Products

The Camera Division of Wholesale Radio Service Company, of 100 Sixth Avenue, New York City, announces the addition of two new items in its line of "Lafayette" photographic chemicals, namely, Acid Fixing Powder and M-Q Developer Tubes. Both of the new products are compounded of the purest ingredients and are packaged to insure no loss of keeping quality.

The Acid Fixing Powder is packaged in a thoroughly moisture-proofed "Lacquer-lined" container. The powder itself is supplied in rice-grain size crystals, thoroughly solvent and guaranteed not to lump or contain impurities. The acid-hardener is contained in a separate moisture-proof tubular container. Careful tests have shown that this acid fixing powder works perfectly with all makes of films, plates and papers and is especially suitable for fine grain work.

The new Lafayette M-Q Developer tubes are fitted with a tapered, oxidation-preventing, separating cork which preserves the high quality of the chemicals for unusually long periods of time with a guaranteed minimum period of one year. Its use insures clear, brilliant

pictures from properly exposed negatives. Each tube contains time-temperature tables and may be used for contact and bromide papers and for tray and tank development of all films.

Kalart Wireless Press Speed Flash

One of the sensations of the recent Photographers' Convention in Chicago was the first viewing of the new Kalart Wireless Press Speed Flash for Speed Graphic cameras. Here are some of the revolutionary features: A built-in mechanical synchronizer, no outside wires, automatic cushioned action, finger-tip release from camera bed, weighs only one pound, adjustable reflector for various bulb sizes, quick change socket with a special lamp ejector, multiple lamp connector, remote lighting feature, two positions for reflector, and combination reflector and battery case in one single unit.

Complete information on the new Wireless Press outfit may be obtained by writing directly to the Kalart Company, 915 Broadway, New York City.

Castle Announces New Films

Castle Films, Inc., enter their second year as largest producers of 16mm and 8mm motion picture films with an announcement of releases for fall and early winter. Castle will continue the policy, so successfully introduced by the company last year, of releasing timely pictures of historical value.

There are four series of monthly releases. Forthcoming releases in the "News Parade" will be "American Legion, Los Angeles-1938," "Preview of the World Fairs," and "News Parade of the Year."

The "Sport Parade" series will feature "Dog Show," "Football-1938" and "Sport Parade of the Year." "Camera Thrills-Wildest Africa," "Baseball-1938," "World Parade" releases for the next few months are: "Rome," "Hawaii," "Sahara," and "A Day at the Zoo."

A fourth series, "See," the picture magazine of the screen, will contain the outstanding novelties in the news. This month a "Christmas Cartoon" will be released.

In addition, 33 Castle home and school movies which have sold widely during the past year will be kept available. All Castle Films may be bought at photographic dealers and department stores, in 16mm and 8mm sizes, sound and silent versions.

Throw away your ruler and pencil!

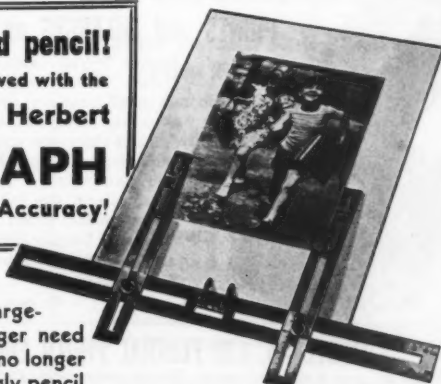
Your last mounting problem is now removed with the

Revolutionary New Henry Herbert

MOUNT-O-GRAPH

Centers Pictures to Hairline Accuracy!

With this revolutionary new precision instrument the problem of centering enlargements is at last removed. You no longer need spend hours measuring and figuring, you no longer need a ruler, you no longer need make ugly pencil marks. In just three easy motions with the MOUNT-O-GRAPH you quickly and accurately keep the borders of the picture lined up with the edges of the mount.



The MOUNT-O-GRAPH is precisely-constructed of all metal. Made like a T-square it provides measurements for the bottom and two sides of the picture. All you need do is to insert the mount in the center clip . . . and it centers itself for you. **\$3.75**

HENRY HERBERT

483-485 Fifth Avenue, New York, N. Y.

Ask for the MOUNT-O-GRAPH at your dealer . . . or write for the interesting folder, "I Swapped My Ruler and Pencil for a Mount-O-Graph."

Made in the U. S. A.

\$\$\$ With Your Camera

(Continued from page 56)

tures to markets that are closed, or that do not want that kind of picture.

A dry cleaner in a large city was confronted with the problem of reaching apartment dwellers. As no solicitation was permitted, he conceived the idea of hiring the porters and maids to place on the telephones in the apartments a small sticker with his telephone number. Because this idea would interest other dry cleaning establishments, the free lance photographer knew he could sell it. To create interest in the picture, rather than just taking a telephone with a sticker pasted on, the photographer posed a pair of lovely hands in the act of pasting a sticker on a telephone, Fig. 3.

In Fig. 4, a druggist takes advantage of interesting pages published in the business paper of his choice by mounting them for his customers to see while they sip sodas at his fountain. Interest is injected

by posing girl customers reading the page.

Study the business fields you are interested in, take pictures that the editor wants, not what you think he should want, make them say something that the editor wants said, and he will buy them.

In the chart on pages 54 and 55, you will find a list of magazines together with information about them and addresses of the people who should be contacted in the matter of pictures.

A few deadlines are given, when they might make a difference. As a rule, the material submitted to business papers is just as good a year from now—often it is better, in the case of seasonal subjects. Editors like to receive the kind of material that can be used any time, and in any place.

The chart tells where to look for material, that is, what type of businesses, and what to look for. Under "Whom to Quote" are given hints about whom to interview. Complete information on



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FIXED FOCUS ENLARGER**

PRINTS and ENLARGES up to 3 1/2 x 5 INCHES

Makes 3 1/2 x 5" enlargements from double frame 35 mm negatives (equivalent sections of negatives up to 4 x 5") for slightly over one cent and 2 1/2 x 3 1/2" enlargements for less than one cent per print. Does not require special printing paper. Now anyone can enlarge miniature film to generous album size with less effort than making a contact print and at no greater cost. No focusing required. Simply insert the paper, press switch a few seconds and the enlargement is ready for development. Lamp included

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MODEL No. 120 FEDERAL PHOTO ENLARGER

Takes all sizes of negatives up to 2 1/4 x 3 1/4 inches with F6.3 Fedar Anastigmat Lens. Calibrated Easel, 16x18" baseboard with hinged type bordermaker and paperholder attached. Enlargements 2 1/2 to 7 times on baseboard; extremely fast exposure; extra sharp prints. 4 masks for all popular size negatives. Book-type negative carrier with curved supports for cut and uncut film. Double diffusing plates supply even distributed intensified light and avoid magnification of dust spots. Built-in diaphragm with red filter. 120 watt projector lamp included

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DEALER**

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"Data of Report and Payment" would consume a hundred pages—this is necessarily brief. In the remarks column will be found quotations from editors, and observations from personal experience.

Editors prefer glossy prints, any size, about 5 x 7 is good. Never send negatives. Identify every picture either by writing on the picture itself, or pasting carefully on it the written caption.

Don't be afraid to experiment, or to let the people who have given consent to your taking pictures in their store know that you *are* experimenting. Then they won't be surprised should you return for a "re-take."

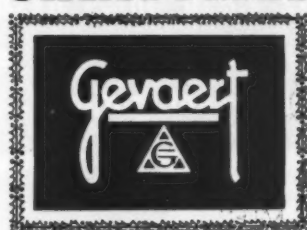
We mention "seasonal" material. To the casual reader this might mean that a summer campaign, should be submitted in the summer time, that a picture of a Fourth of July merchandising window should be sent to market during July.

The business press works almost upside down as regards the seasons. In order to prepare a merchandising window to draw sales during the Fourth of July holiday season, the merchant begins to plan at least a month ahead. If he consults his business paper for an idea, he looks into the issue which he received then, in June. That issue went to press in May. The copy for it was prepared the month previous to that, April, which would necessitate any interviewing, writing and picture taking, to be done at least as early as March.

Keeping in mind the following six points, you can make your camera pay dividends and you will find a new interest in many things you did not know of before:

1. Know your market.
2. Be sure of your subject.
3. Take enough shots on the first trip to guarantee a good one.
4. Bring out the IDEA in your picture.
5. Make a clear print on glossy paper.
6. Identify all prints carefully. Paste to the bottom of each print, a type-written caption describing the print and what it means.

CHRISTMAS



LIST

If he owns a 16mm. Movie Camera

Be sure he receives Gevaert "theatre quality" Reversal Films. Panchro Super Reversal, Panchro Microgran (fine grain) Reversal, Ortho Reversal. All are supplied in both 100 ft. and 50 ft. lengths.

If he owns a Miniature Camera

The films listed below are just what he needs. Panchromosa, Panchromosa Microgran (fine grain), Express Superchrome. All packed in daylight loading refillable cartridges of 18 and 36 exposures. Economical refill cartons are available for both. These splendid films will guarantee him new thrills in minicam photography.

If he owns a Roll Film or Film Pack Camera

Then Panchromosa and Express Superchrome will fill the bill for "perfect pictures." Both kinds are supplied in all popular camera sizes.

If he makes his own Enlargements

You will be thanked forever when he sees a gift of NOVABROM, the all-purpose enlarging paper. He knows that all his negatives will yield splendid enlargements on Novabrom.

(NOTE TO MEN — If SHE is the recipient of these photographic gifts, you will be thanked forever in helping her along the road to "perfect pictures.")

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**"G-E flash bulbs assure
highest quality for fast
action photography"...**

says
GEORGE KARGER,
Staff Photographer,
Pix Publishing, Inc.



Action shot
by Karger, of
Polly Luen,
member of the
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Corps de Ballet



Here's why they'll help YOU get clearer shots

1. EASY TO USE... Flash! and you've got the picture... just like a news expert... whether you have only a simple, inexpensive box or a high-speed minicam.

2. PLENTY OF LIGHT for clearer pictures. G-E MAZDA Photoflash lamps give you good detail and good negative density. For that once-in-a-lifetime shot, here's the lamp to use! Grand for color, too. Each lamp gets one good picture. Buy G-E Photoflash lamps where you buy film.

SYNCHRONIZED SHOTS? Try G. E.'s new No. 7 lamp.



**G-E MAZDA
PHOTOFLASH LAMPS**
No. 10 . . . 15¢ list
No. 7 (Candid size) 18¢ list
No longer than a pack
of cigarettes



**for dozens of shots...
G-E MAZDA
PHOTOFLOOD LAMPS**
No. 1 . . . 25¢ list
No. 2 . . . 50¢ list

GENERAL ELECTRIC
MAZDA PHOTO LAMPS

Pictorial Analysis

(Continued from page 59)

and secondly, he is allowed to occupy the greatest area with the largest instrument. All together, this is a masterly way of handling a difficult group, and one which, while following standard pyramidal form, is out of the ordinary in the treatment of the posing.

In keeping with the theatre, a so-called "stage lighting" is employed. This means the main light source originated from a very low position, presumably close to the floor. This type of lighting helps to lend a dramatic note and is of great importance in creating an interesting shadow pattern of the cello on the wall; the composition would lose much if this area had been left empty.

We admire the manner in which every important line does its part in making our eye return to the music. First, we have the faces of all men and the direction of their eyes. This is further augmented by the angle of the violin and bow of No. 2, the outstretched arm and pointing finger of the director No. 3, the position of the viola No. 4, and the definite guide of the cello which prevents our eye from wandering out when we reach that section. All combine to compose an excellent illustration of radial composition.

For the necessary variety, we have a different facial angle for every player. This means the lighting on each face appears different although emanating from a distinctive main source. This is extremely important in group posing to avoid monotony. Rhythm also is abundantly evident in other forms, such as hands and instruments.

The texture apparent in the print is due to the fact that Dr. Thorek has used a paper negative in producing the final picture. He is one of the foremost exponents of this process and has gained world-wide fame with the studies which he has created through this medium.

A snow scene by Gustav Anderson will be reproduced and discussed in this department next month.



CRITICAL

Your Snapshots and How to Improve Them

"CERES, GODDESS OF THE SOIL"

THE idea is well carried out, and as this legendary figure was honored as the Goddess who controlled harvests, the actual field scene is in keeping with the theme. However, there is a feeling that this type of subject can be much better done through painting or such graphic media rather than through photography. While photo-montage or the combination of two negatives on one print is resorted to every day by photographers in the combination of clouds or even complicated commercial layouts, it is rather dangerous to step into the realms of allegorical figures. But assuming that such a subject can be treated photographically, we would then suggest that the maker would not come so close to dividing his picture so definitely in half—that is, he should either give



● "Ceres," double exposure, each exposure given half normal opening.

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for
FOOTBALL
Action
PICTURES
with the
miniature camera



YOU need a fast film. But it should have fine grain too. Then you can "blow up" the area of the negative that actually carries the action. Even this picture made from the side line is only part of the original negative. Proof again of the advantage you gain by using one of the Du Pont 35mm Films. Their speed, fine grain size, and other photographic qualities are carefully balanced for all round versatility. For football pictures, pick Du Pont Superior Pan or XL Pan. Your photo supply dealer carries both.

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75c for a bottle that makes 11 bottles of solution. Foto-Foam is the formula of Anton Bruhl. We are sole distributors.

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We carry a complete line of cameras and supplies. Trade in your camera.

Write us your needs.

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PROTYME Projection Printing NEW



Exposure Meter
Sensitive Vacuum Photo Cell type. Plugs into light socket. On any size print correct exposure in seconds reads on meter. No figuring — no records — no spoiled paper. Practical, durable, compact. Simple instructions. Ready to use. \$15. **ORDER TODAY — MONEY BACK GUARANTEE.** Send \$2 for COD shipment. Free literature.

J-M-P MFG. CO.

Est. 1922 Milwaukee, Wis.

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more importance to the foreground or else to the head of the lady. As it is now, the picture is too symmetrically cut in half. Another thing, for a Goddess, while the lady's face is very charming, somehow or other we do not feel that Ceres had such an up-to-date soulful look. Furthermore the print quality could be improved, the print under consideration being rather flat and weak.

"**STALKING**" is a candid shot with some elements of humor, the hunter being absolutely unaware that he also was being hunted.



• "Stalking," 1/50th at f11.

This type of picture sometimes can be very effective, but in this instance it does not quite go over. It is pretty well known that the best so-called candid pictures are usually posed, because in that way we can get exactly the effect we want and wait for the proper light—anyway, that is the way the professional man has to work, as he cannot leave anything to chance. Of course he can call upon professional models who have a sense of the dramatic. The amateur who tries these with friends will quite often exaggerate poses too much, or his subjects will fail to react in the right sense so that the final result looks obviously faked. However, while this picture is not one of the best examples of candid photography, at the same time it no doubt caused some amusement to those who



• "Son." Two flood bulbs, f5.6 at 1/50th second. Super Pan Press film.

were members of the photographic hunting party.

"SON" is the sort of picture which should not be judged too critically, as it is mostly made for the enjoyment of the family. In fact, we feel that regardless of the experience or ability of the photographer, the camera should be used more around the home to record fleeting moments of childhood days and other events which mark off the years. In this instance, the little fellow no doubt had his picture taken on his third birthday and is having a thoroughly enjoyable time, but evidently no more than his Dad had in taking the picture. A picture of this sort is, and quite well could be, of greater value and treasured more than the finest photograph ever made by the greatest worker.

Make Your Own Prints

(Continued from page 49)

two adjustments to make: (1) contrast of paper, and (2) exposure.

If the print came up rapidly in the developer and became too dark, it was exposed too long. If the image appeared only after the paper was in the developer for 20 seconds or more and then failed to become dark enough, it was not exposed long enough. (See Fig. 10.) For the next print, change exposure time accordingly. Count the seconds each time as you turn on the exposure light.

The other adjustment is choice of paper. Printing papers come in several degrees of contrast, some times as many as five or six. Three contrasts are adequate for most use.

Paper contrast is selected to conform with each negative. Negatives vary because of differences in subject matter and lighting, but mostly because of variations in exposure when taking the picture.

The average correctly exposed negative will print best on No. 3 paper.

When one negative is printed with several grades of paper, the No. 4 paper will require more exposure than the No. 3. And No. 3, in turn, will require slightly more exposure time than the No. 2.

Study the examples in Fig. 10. The five prints were made from one negative and show how to recognize incorrect paper

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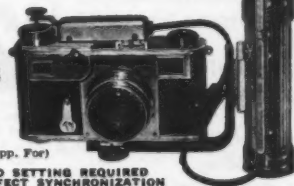
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choice or exposure. Correcting these faults then is only a matter of trial and error.

When you are through printing, the hypo can be put in a bottle and used again. The developer will not keep, so throw it away. Wash the trays, tongs and the graduate; place them so they will dry. Always be sure the paper is put back into the right envelopes before lights are turned on.

Learn to make good contact prints as an introduction to making enlargements. The essentials of exposure, development and paper choice are the same.

FOLLOW THESE STEPS FOR CONTACT PRINTING

1. Turn off all lights except safelight.
2. Place negative in frame, glossy side down toward glass. Place paper (Fig. 3) emulsion down on negative. Close frame. Put paper away.
3. Turn white light on for required time, then off.
4. Take paper out of frame, slide it into developer (first tray), face up, and rock tray for 45 seconds. (Fig. 4.)
5. Remove paper from developer with tongs and drop it into short stop (second tray). (Fig. 5.) Length of time in this tray is immaterial.
6. Remove print from rinse with hypo tongs and put it into hypo solution.
7. White light now may be turned on to inspect print.
8. To be sure prints will be permanent, fix for at least 15 minutes.
9. Wash in running water until all hypo is removed. This will take 30 minutes to an hour if prints are to be permanent.

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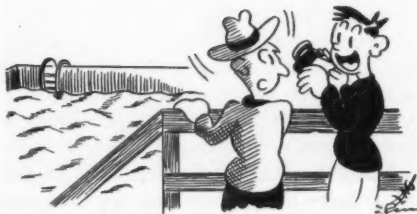
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● My 1.5 lens stopped him!

Lion's Den

(Continued from page 45)

Mr. Jacobs asked me, "Well, would you like to be a lion tamer?"

"Not I", I replied.

"And I suppose that you weren't scared either," said the lion tamer.

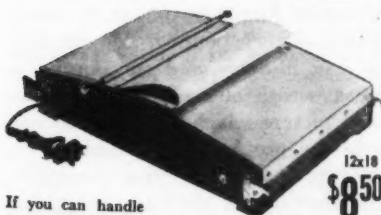
"I wasn't scared—much", I countered, "because I knew you were in there with me, and had that gun with you."

Jacobs grinned, "Those lions are too expensive, so we keep only blank bullets in the guns."

Recovering enough to pack up, I left the Garden as fast as I could. My last impression of the assignment is a woman's voice sweetly saying, "Terrell, dear, I still say that man is a nut . . . why does he stagger so?"



● "So! Gunner Jones, you've been taking candid shots again!"



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How to Make Photo Greetings

(Continued from page 15)

out a piece of black paper in Christmas tree form and pasting on the celluloid. Then the lettering, as in Fig. 13, is applied. It will come out white on the finished black field.

The transparent celluloid may be supplied by a piece of film which has been fixed and washed without exposure. For lettering on it, the celluloid may be given a tooth with retouching fluid or rubbing with a fine abrasive such as powdered pumice. With draftsman's tracing cloth, no preparation is needed and the ink may be applied directly.

The home movie maker who uses a lettering kit for titles will find new uses. An announcement such as Fig. 15 may be made by placing the lettering directly on the printing paper or by photographing separately. In the latter case, the lettering negative is printed simultaneously with a suitable background negative.

Red title letters are well adapted for copying, and will produce either white-on-black or black-on-white lettering. For the former, pan film and a red filter is used, and a dark background. When black-on-white lettering is required, ortho film is used and a white background.

An interesting variation of the paste-up method is that in which small figures are pasted against backgrounds all out of proportion to themselves. For example, a prominent photographer several years ago had his whole family in miniature riding on the back of their pet dog. The pasteup method can also be used for putting a Christmas wreath or some other decoration in a picture which you want to use but lacks the proper holiday spirit.

There are many interesting variations and combinations of the basic principles of making greeting cards. You can use 11 x 14 paper and make it into a five and a half by seven French fold card with picture on the outside and lettering on the inside. Of course in making this kind of a card the picture and the lettering must be printed opposite ends up, so that they

will be both the right way up after folding.

When a photograph is to be "tipped", (the upper two corners pasted down in a folder,) it is made on single weight paper. Single weight paper also is desirable for any card in which the photograph is pasted in. Double weight, however, should be used when the complete card is on photographic paper.

In making any sort of greeting card, a very important consideration is not a photographic problem at all. Before deciding what size card to make, first obtain envelopes. If this is not done, you may make a stack of cards and find that stock envelopes are not obtainable to take them gracefully.

Whichever method you choose, endeavor to put originality into your card and get away from the type that savors of the gift shop and stationery store.

Book Reviews

MODERN PHOTOGRAPHY 1938-9, Edited by C. G. Holme, 150 pages; 110 illustrations, 8 in full color. *The Studio Publications, Inc.*, New York and London. Price \$3.50.

For the eighth successive year, "The Studio Annual of Camera Art" presents a selection of the year's best prints. Eighteen countries are represented including America, France, Germany, Great Britain, Hungary, Italy and Japan.

This is not merely a first-class picture book. The technical information, showing the conditions under which each photograph was taken, the camera and materials used, etc., are a valuable aid to the serious student—amateur or professional. There is also an important article on "Cameras of Today" accompanied by detailed particulars of cameras now on the market.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, ETC., of MINICAM Magazine, published monthly at Cincinnati, Ohio, for October 1, 1938. Required by the Act of Congress, August 24, 1912. Publisher—Wilbert Rosenthal, Cincinnati, Ohio; Editor—Will Lane, Cincinnati, Ohio; Business Manager—A. M. Mathieu, Cincinnati, Ohio.

Owners—Automobile Digest Publishing Corp., Wilbert Rosenthal, L. A. Thelen, A. M. Mathieu, all of 22 East 12th Street, Cincinnati, Ohio.

There are no bondholders, mortgagees, or other security holders. Sworn to and subscribed before me this 10th day of October, 1938

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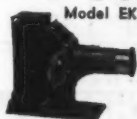


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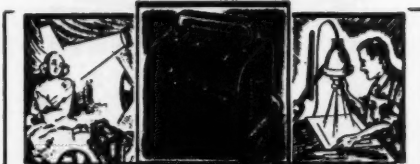
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Photography TRADE NEWS

New Principle of Lighting in New Argus Enlarger

A NEW system of illumination, employing reflected light rather than conventional direct diffused light, is embodied in the new 35mm enlarger just announced by the International Research Corporation, Ann Arbor, Mich., manufacturers of Argus Cameras and photographic equipment.

Coolness of operation, giving greater protection to negatives, and flat-field illumination, with full brilliance to all parts of the negative, are provided by this development.

Designed for use with Models A and AF Cameras, or with a special enlarging lens and adapter mount, the new enlarger uses five lenses. When the camera lenses are used, $f:4.5$ aperture is provided. The camera diaphragm can be opened or closed to control light. When the Argus adapter lens and focusing mount are used, an $f:5.6$ triple anastigmat lens, with an aperture slide with $f:8$ and $f:16$ openings, is at the operator's command.

An outstanding feature is the moulded bakelite book-type film holder. There is no glass in this unit. It is non-scratching and dust-free. It may be removed and inverted for 11×14 prints. It handles either single negatives or strip film. Positive film tension is released with a full cam lever for moving film.

By the use of a 100 watt prefocused projection lamp with its concentrated filament, the source of illumination for this new system closely approaches the ideal "point light" source for which enlarger designers have long striven. This small but extremely brilliant lamp is placed at right angles to the optical system and the center portion only of the lamp ray where the flattest and evenest illumination is available is picked out and reflected down through the condensers.

The enlarger is designed to use either the Argus Model A or AF Camera for the objective system, with an $f:5.6$ triple anastigmat furnished as separate equipment for those having other makes of cameras or want a complete enlarger.

When the Argus is used for the lens system, the picture is then printed back through the same precision lens which originally made the negative, so that five lenses are actually used, three in the focusing mount and two in the condenser system. $f:5.6$ lens used in the separate adapter is also a triplet anastigmat precision lens, mounted and quickly attached.

This mount provides three working apertures, f:5.6, f:8 and f:16.

Either single negatives or film strips of any length are handled. A swinging, built-in red filter is standard equipment.



The lamp house can be swung on its mounting arm for table-edge enlargement work. This is essential in photomural work. Enlargements up to 30 x 40 inches are easily attained in this manner.

Seventeen die-cast parts go to make up the rigid construction of the enlarger. The list prices of the Argus enlargers are \$14.75 to \$21.25.

Projection Aids

Several items are being newly featured by Mogull Bros., Inc., of 68 West 48 Street, New York, that will prove of considerable assistance to the movie enthusiast who is anxious to improve the conditions under which he projects his pictures.

Everyone is familiar with that "embarrassing moment," when guests are present, trying to raise the projector to a sufficient height so that the beam of light will be over the heads of those seated. Instead of piling up books and other objects to elevate the projector, Mogulls are featuring a patented projector stand with tripod legs and self-contained elevating device which will accommodate any make or model of projector, raising the lens to a height of 4½ to 5 feet above the floor, thus giving a professional touch to home projection. This stand is being featured at a special introductory price of \$6.49. It folds as compactly as an umbrella and is easily portable.

Another item is the Hayden editing board, polished oak, with ten 15-foot reels, so arranged as to provide for individual scenes in proper continuity. This sells at \$2.95.

A third item, small but indispensable, are reel fingers selling at 10c per dozen, designed to convert ordinary projection reels into self-threaders. Thus, for a dime, twelve reels can be inexpensively converted into modern equipment.

COMING: "How I Photograph Babies", by H. Armstrong Roberts.

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Dealers write for terms

New 2 1/4 x 3 1/4 Speed Graphic

A REMARKABLE camera engineering achievement and one that many photographers—amateur and professional alike—will hail with enthusiasm is the new Miniature 2 1/4 x 3 1/4 Speed Graphic just announced by the Folmer Graflex Corporation of Rochester, New York.

Most notable feature of the new camera is its greatly reduced size—36% smaller than the next larger Speed Graphic camera size. Only 3 1/2" deep, 4 7/8" wide and 5 1/2" high, it is hardly as tall as two packs of cigarettes and much narrower.

The new camera has all the advanced features which have made Speed Graphic cameras the acme of versatility and efficiency and several new ones not at present found in other members of the Speed Graphic line. One of these is built-in focal plane shutter flash synchronization at all focal plane shutter speeds of 1/60 and faster. Another new feature is the provision of dual focusing knobs to make focusing easy and natural for either right-handed or



left-handed owners. Helical racks and pinions have been included in its design to afford perfectly smooth, frictionless focusing without backlash. Another new feature is its all-metal bed—supplying greater rigidity and increased protection of camera mechanism and lens when the unit is closed for carrying.

Its removable lensboard accommodates a wide variety of speed, telephoto and wide-angle lenses, a feature which, combined with the camera's 24 focal plane shutter speeds, gives the owner a picture-taking range sufficient for any occasion. Both an optical finder and folding

wire frame finder are provided—the latter facilitating the picturing of fast action.

The new Miniature $2\frac{1}{4} \times 3\frac{3}{4}$ Speed Graphic possesses a double extension bellows which enables one-to-one copying and, with short focal length lenses, direct magnification of almost two-to-one. Like all other Speed Graphics, it has a rising and falling front—a feature that becomes invaluable in interior and architectural photography—and ground glass focusing either in the Graphic or Graflex type of back.

Available for the new camera is a special Kalart internally coupled range finder which is synchronized to focus through a range of from four feet to infinity.

These features make the new Miniature $2\frac{1}{4} \times 3\frac{3}{4}$ Speed Graphic an ideal camera for all types of picture-taking, night or day. Close-ups, action shots, scenics, pictorial studies, portraits and al-around "snap-shooting" are easily within its range.

Details from Folmer Graflex, Rochester, N. Y.

New Cine "8"

A new movie camera with many features found only in higher priced cameras has just been announced by the Universal Camera Corporation. The new model will be known as the World's Fair Cine "8" Camera.

Some of the new features:

1. A new type brilliant vision optical view finder built right into the body of the camera.
2. A quick closing hinged cover which cuts the loading time almost in half.
3. A self-locking cover catch insures automatic locking of the cover.
4. A new type shutter release mechanism closes the shutter every time the motor is stopped.
5. A high-powered, quiet running motor gives a long run of film at a uniform rate of speed. The new governor incorporated in this motor represents the more advanced design.
6. The camera case is a handsome, antique bronze finish with chromium trim.

The 54 other features are designed to make movie-making easier and more pleasurable.

The camera equipped with $f:5.6$ lens retails at \$12.50, with Wollensak $f:3.5$ lens at \$21.50 and will use the Univex Standard Film at 69c or the Univex Ultrapan at 95c. The camera is designed so that lenses are interchangeable and may be had with the $f:2.7$ at \$27.50 or the $f:1.9$ at \$47.25.

New Movie Film

A new 16mm movie film selling for \$1.98 a 100-foot roll, including processing, is now being marketed by the Visual Instruction Supply Corp., of 1737 Broadway, Brooklyn, N. Y. The film, which is called BLACK AND WHITE, has a rating of Weston 12 and Schiener 18.



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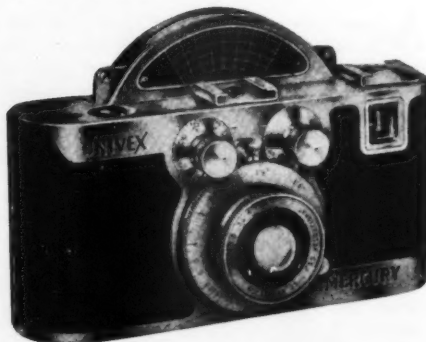
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Booklet of All Cameras

IN response to requests from readers, MINICAM has prepared a booklet of all popular cameras available. This booklet, "A Buyer's Guide of Popular Cameras" contains no advertising but simply a detailed listing of 186 different cameras with the name, retail price, shutter speed, shutter type, negative size, and special features of each. Also the name and address of the manufacturer (or basic American distributor if the camera is imported) is given in each case. Price of this booklet: ten cents postpaid. Similar informative booklets on enlargers and exposure meters will be available next month, also at 10 cents each. To order send stamps or coin to MINICAM, 22 East 12th Street, Cincinnati, Ohio.

A New Minicam

The new Univex MERCURY candid camera is a neat 35 mm. job with an $f/3.5$ lens and an all-metal focal plane shutter with speeds from 1/20th to 1/1000th of a second. The price is \$25.00.



The lens, on a focusing mount, focuses up to 18 inches from the subject making supplementary lenses unnecessary for closeup portraits.

It has a built-in flash synchronizer and interchangeable lenses. Additional features include automatic film transport, film counter, exposure calculator and depth of focus scale.

Only 5 7/16 x 2 1/2 x 1 3/8 inches in size, it weighs 18 ounces, and is finished in polished aluminum.

The functional design of all adjustment controls is extremely appealing. The Mercury, probably the first candid camera to feature this instrument panel arrangement, has every adjustment on the front of the camera, compactly and conveniently grouped. Any focusing or shutter speed adjustment can be made almost instantly, and without flipping the camera from front to back, from top to bottom or from side to side.

Fine Grain "Intensifying"

How would you like to complete the "developing" of your negatives in broad daylight after they've been fixed? And have practically grainless results!

You can—with little trouble and first-class results—by using VICTOR Intensifier after *deliberately under-developing* your films. So says J. H. Smith & Sons Corp., of Griffith, Indiana.

In addition to giving you an opportunity to observe the building up of the image, VICTOR Intensifier makes your negatives more brilliant than regular fine grain developers.

Procedure is simple. You develop your film in the following developer for 3 minutes at 65 degrees F.

Metol	20 grains
Hydroquinone	50 grains
Sodium Sulphite (des.)	100 grains
Borax	200 grains
Water to make	20 ounces

Then fix and wash *thoroughly*. Intensification may then be done immediately, or the film may be dried and put aside for future treatment. The image will be thin and almost grainless, due both to the nature of the developer and under-development. Immersing the negatives for from 15 to 60 seconds in VICTOR Intensifier will build up the contrast without coarsening the grain.

The intensifier works equally well on wet or dry negatives, gives permanent results, requires no bleaching solution, hardening bath or preliminary treatment.

It keeps in solution indefinitely and may be used again and again until its strength is exhausted. For intensifying thin, underdeveloped negatives it is the simplest intensifier available. All camera dealers can supply VICTOR Intensifier or secure it for you promptly.

A New Light for an Old Problem— "Wonderlite" Color Matcher

The Wonderlite "Color Matcher" is designed for the purpose which its name implies. It is the perfect light source for perfect color matching and blending. The "Color Matcher" should not be confused with the common daylight blue incandescent lamps which have been on the market for years.

The Wonderlite "Color Matcher" provides a perfect "north light," the same quality of light that appears in the north sky on a clear day about 2 o'clock afternoon. It may be used in total darkness or combined with daylight.

Its design is such that it may be used on regular current and its cost only slightly higher than ordinary incandescent lamps. It is available in the following sizes:

Watts	Bulb	Price	Pack Quantity
75	A21	\$.50	60
100	A21	.75	60
150	A25	1.00	60
200	A25	1.25	60
300	PS40	2.00	12
500	PS40	2.80	12

There is hardly a profession or occupation which at some time has not been handicapped by the lack of lighting of the proper quality, thus the uses to which the "Color Matcher" may be put are almost unlimited.

Artists are using it. Their working hours have always been limited due to the short period in the day in which the proper light was available. The "Color Matcher" gives them twenty-four hours a day in which to work if they desire.

For color printing and balanced lighting for displaying color transparencies, the "Color Matcher" is perfect. It has been used with most satisfactory results in print shops, lithography and special camera work.

Two New AGFA Tripods Announced

Designed especially for the use of amateur photographers, two new tripods possessing several distinctive features have just been announced by Agfa Ansco Corporation of Binghamton, N. Y. The two tripods which are constructed of a carefully planned combination of cold rolled steel, forged aluminum, and machined brass, are not only light in weight, but provide remarkable rigidity in use.

The tripods have four sections, telescoping legs that open quickly to extended position. The tripod legs have a 5-side design that results in unusual rigidity and resistance to wobble or side-weaving. When closed, the legs form a compact, nine-faceted circle, 1 inch in diameter.

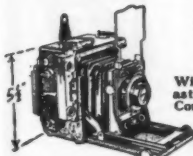
Bass Bargainingram

Vol. 28. No. 11

NOVEMBER, 1938

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- Retina I, F3.5 lens..... 32.50
- Duo Slx-20, Kodak F3.5 lens, Compur Rapid shutter, black 34.50
- Contaflex, Semmar F1.5 lens, carrying case., 245.00
- 2 x 2 SLIDE MAKERS—a four-page folder listing latest in projectors, cover glass, masks and supplies. Just printed. Write for it...



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2" 50 mm. Laack Trojan Anastigmat F3.5 in special barrel\$8.00

3" 75 mm. Laack Anastigmat F4.5 in special barrel\$ 7.50

3" 75 mm. Laack Trojan Anastigmat F3.5 special barrel\$9.50

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Filmarius O: 3 x 4 cm. or 35 mm.—condensing lens, red focusing filter, etc. With Anastigmat F4.5 lens\$32.50

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No. M-11

Jas. H. Smith & Sons Corp.

Griffith, Indiana

The Agfa No. 1 metal tripod which is furnished with a stationary head, measures 15 1/2-inch in length when closed, and extends to a height of 48-inch. Its weight is 19 oz. The stud of the No. 1 tripod is of the reversible type and can be adapted for either American or Continental tripod sockets by the removal of one screw.

The Agfa No. 2 metal tripod provides a ball and socket swivel head that permits locking the camera at any angle including straight up or straight down. The weight of the No. 2 tripod is 23 oz. Its length is 17-inch closed, while it extends 50-inch opened. Both tripods are equipped with removable rubber tips that fit over the metal pointed feet to prevent scratching or slipping on polished floors.

These two new Agfa tripods are at most regular photographic dealers. The No. 1 tripod retails at \$3.95, and the No. 2 tripod at \$4.95.

Omag Filters for Rollei

The Omag filters, long known here and abroad for their outstanding optical qualities, have been adapted to the new Automatic Rolleiflex and Rolleicord cameras, it was announced by A. J. Weinstein, President of Chess-United Company. The complete line of colors and densities are available in individual units or in regular Omag Filter Kits, equipped with bayonet mounts for both the Rollei Cameras.

Individually mounted, the Omag filters for Rolleiflex and Rolleicord sell for \$4.50 each. In kit form, containing four assorted filters, (customer's choice), a bayonet mount and a handsome satin lined case, the list price is \$10.50. Available at all dealers or write to Chess-United Company, Emmet Building, Madison Ave. and 29th St., New York City, for further details.

Cleaning Brush

Raygram Corporation, 425 Fourth Avenue, New York, announces the RAYGRAM CLEANER BRUSH, made of the finest grade Camel's Hair. The extra long bristles make it easy to get at all the parts of the camera and other photographic equipment. The case is made of bakelite and brass, nickel plated. After removing the cap, the brush, set into a spiral elevator, is ejected by a short twist of the base. This accessory solves the dust problem. It will keep your lenses and other photographic equipment clean; an invaluable aid in securing spotless pictures. This cleaner brush is a handy pocket size, 2" long. The price is \$1.00.

New Title-er

Boasting more characters than any amateur motion picture captioning device in its price range, the new Whitehead Title-er has just been placed on the market. A total of 342 letters, numerals, and punctuation marks die cut in two sizes (1" and 3/4") from soft sponge rubber are used in conjunction with the TITLE-ER frame itself which holds the letters suspended between plate glass sheets and permits an infinite variety of photographic effects approximating those of the professional. This is manufactured by Barry Whitehead, (the racing official) 857 Mission St., San Francisco, Calif. and sells for \$9.95.

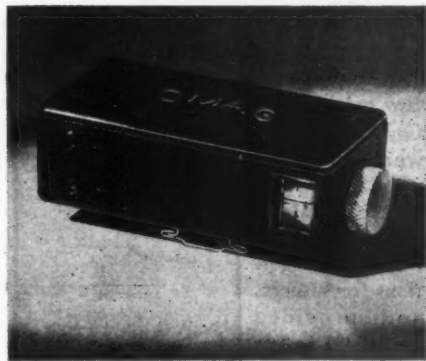
Here It Is—There It's Gone!

Just imagine being able to do your dark room work in any room of your home . . . doing it without making that room look like a shop . . . and when you are finished, just turning on the lights, closing two doors (safety lock) and having your work cabinet turned into a neat piece of furniture or wheel it into any other room.

You can do just that with the "FELICE" Home Dark-Room Cabinet manufactured by Felice's Wood Products Mfg. Co., Inc.—431 W. 28th St., New York. This Cabinet is a complete photo-laboratory in itself. It is equipped with two porcelain trays and a 15-inch diameter scientific washer or sink combined . . . or if desired, two extra trays in place of the scientific washer. Also has one large shelf compartment for storage of trays and squeegee plates. Below are four large drawers equipped with label holders for paper, films, negatives and various camera accessories. A large storage compartment is also provided for all your chemicals and equipment. When closed, this cabinet is only 24-inch wide, 18-inch deep, 36-inch high, and when opened, 48-inch wide. Finished in walnut or mahogany. Price \$29. For further information, write Felice's.

New Range Finder

The Chess-United Company, American distributors of the Optikotekna line of Czechoslovakia enlargers and the Swiss made Omag filters, bring a new precision range finder to this market. Made by the same organization whose precision-calibrated optical glass filters have won such acclaim in America, the Omag range finder combines extreme accuracy and ease of manipulation. Two large fields, one colored light yellow for easier vision, are brought into coincidence by means of a large knurled head at the right of the instrument. The distance is then read from the large Omag calibrated scale beneath a hair line rule in the glass window.



The outside case is made of bakelite with no protruding parts to interfere with the normal operation of the camera. Because of its neat, rectangular shape, a longer focal length can be used giving larger images. This makes it easy to find the range of even small objects, and in dim light.

Also supplied is a bracket to be attached to any camera for supporting range finder in the same way.

The Omag range finder sells complete for \$7.50. See it at your dealer or write to Chess-United Company, Emmet Building, Madison Avenue and 29th Street, New York City for further information.

New Portable Floods

The Livingston Sales Company of Poquonock, Conn., announces the production of a new portable photographic floodlight for movies and stills, known as the Porta-Flood.

It consists of a double sided case, separating into two individual units, each unit using three photo-flood or similar type bulbs. Each side has a special light controlled switch which throws the bulbs on to dim while arranging lighting or focusing, and high for the actual take, thereby prolonging the life of an ordinary two hour photo-flood bulb up to 500 hours. By using photo-flash type bulbs the units can be made to cover an extremely large area, making it ideal for banquets, large gatherings, etc.

The complete outfit has a peak output equal to 3900 watts. The exterior appearance is that of a smart traveling case, made up in two styles, a conventional black leatherette covering and a modern airplane luggage covering.

Porta-Flood sells for \$9.95, each unit including a six foot extension cord. Porta-Flood furnishes sufficient light to enable one to take snapshots or portraits in the house with an ordinary box type camera.

Further information or literature can be had by writing the Livingston Sales Company, Poquonock, Conn.

Holiday Catalogue

CENTRAL CAMERA COMPANY, 230 S. Wabash, Chicago, Ill., announces publication of their annual Holiday Bargain Book, a treasure-trove of cameras and photographic equipment.

This new Holiday Bargain Book lists page after page of the latest in cameras, both still and movie lenses, films, filters, enlargers, developing and printing sets, retouching sets, photographic books, tripods, and photographic accessories of all kinds. For those who wish to make this a photographic Christmas, either for themselves or for their friends, this new Holiday Bargain Book provides a convenient way of shopping.

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"A Quarter Century on Cornhill"



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YOU LOSE both ways when YOU CONSIDER PRICE ONLY

Use WONDERLITE Photographic Lamps and YOU WIN both ways—you get the desired ECONOMY and still more important the desired SUPERIOR RESULTS! WONDERLITE Photographic Lamps give longer life (lower cost per hour) and are consistent in quality—that spells ECONOMY! WONDERLITE'S position of leadership in the field of photographic lighting is the natural result of the superior effects you can obtain with WONDERLITE Photographic Lamps. You also reduce your lighting costs.

WONDERLITE CO.
West Orange, New Jersey

Camera Club Exchange Exhibits

By STANLEY A. KATCHER

TO our club, the monthly print competition was old stuff, but we put new life and interest into the idea.

This was done by assigning a definite subject each month, such as "Trees", "Statues", etc., and by obtaining one or two outside judges to determine winners. Only new prints were accepted each month. Articles in MINICAM frequently furnished suggestions for subjects and provided technical information and inspiration to give competitors a flying start. Points awarded each month went to determining the annual "club champ".



• A club seal can be made photographically at small cost.

Three monthly winners and five honorable mentions receive the club seal. Our sticker was printed at relatively low cost by means of a half-tone engraving on gummed paper. The design was made photographically—just a little hand lettering on a print of the Empire State Building which we thought helped to associate our club with New York City.

The exchange idea was a natural outgrowth of the monthly competition. We gathered a group of 25 prints selected from the best of the monthly submissions, and this traveling exhibit is on the road now. In return we receive an exchange exhibit each week. These exchange prints are hung in our clubrooms under glass and furnish subject matter for an interesting discussion as each print is taken under consideration.

The exhibit provides publicity for the club when camera stores post notices and

this serves to introduce the club to prospective members.

Our first problem was making contact with clubs willing and able to provide exhibits. The following signified their desire to exchange traveling shows with us and other clubs. Obviously this list is incomplete, but it furnishes a starting point. Any club prepared to exchange an exhibit of 25 to 50 prints can write some of the clubs below and arrange dates. It is a good idea to present about three alternative dates when writing.

Atlanta Camera Club, P. O. Box 684, Atlanta, Ga.; Leonard Rosinger, Secretary.

Amherst Camera Club, Amherst, Mass.; John H. Vondell, Secretary, 80 Fearing St.

Bloomfield Camera Club, Bloomfield, N. J.; J. M. Spees, Print Director, 182 Ashland Ave.

Brass City Camera Club, Waterbury, Conn.; Gertrude G. Clark, 130 N. Main St.

Bridgeport Camera Club, Bridgeport, Conn.; Claude E. Thompson, 298 Prospect St.

Camera Clique of St. Louis, St. Louis, Mo.; Stuart M. Chambers, 7108 Northmoor Rd.

Camera Club of Cincinnati, 308 Sycamore St., Cincinnati, Ohio; Lee J. Davis, 225 East Fourth St.

Camera Pictorialists of Chicago, 5619 Broadway, Chicago, Ill.; R. Hedenvall, Print Dir.

Cedar Rapids Camera Club, Cedar Rapids, Iowa; F. V. Morrison, 216 Cottage Grove Ave., S. E.

Cleveland Photographic Society, 2073 East Fourth St., Cleveland, Ohio; J. C. Moddejonge, Print Dir., 7414 Manhattan Rd., Parma, Ohio.

Crystal City Camera Club, Corning, N. Y.; Fred A. Dahlmann, 88 West Fifth St.

Center Photo Club, Allentown, Pa.; Ira Leonard, Secretary, 730 Linden St.

Delaware County Camera Club, Upper Darby, Pa.; H. J. McFeely, 7168 Marshall Rd.

Harrisburg Camera Club, Box 844, Harrisburg, Pa.; Harold L. Hess.

Hocking Valley Camera Club, Lancaster, Ohio; James W. Kunkle, 735 East Sixth Ave.

Lakewood Camera Club, Lakewood, Ohio; John C. Gregory, 1176 Warren Rd.

Long Island Photographic Society, Flushing, L. I., N. Y.; Carlyle F. Trevelyan, 161-19 59th Ave.

Manhattan Camera Club, 234 West 78th St., New York City; Stanley A. Katcher, 295 Madison Ave.

Midwood Camera Club, 977 East 7th St., Brooklyn, N. Y.; Irving Cooperman.

Miniature Camera Club of Baltimore, Hotel Rennett, Baltimore, Md.; M. I. Zimmerman.

Morris County Camera Club, 51 South St., Morristown, N. J.; P. W. Foster.

Orleans Camera Club, P. O. Box 1603, New Orleans, La.; Charles B. Stewart, Print Dir.

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phia, Pa.; John W. Scott, Secretary, 925 Witherspoon Bldg.

Shorewood Camera Club, Milwaukee, Wis.; William E. Jones, Secretary, 720 E. Wisconsin Ave.

Travellers Camera Club, 700 Main St., Hartford, Conn.; Mildred E. Adams.

Utica Camera Club, Utica, N. Y.; Florence E. Stall, 258 Genesee St.

Valdosta Camera Club, Valdosta, Ga.; W. M. Castleberry.

The following clubs probably will have travelling exchange exhibits ready this month:

Bird Camera Club, East Walpole, Mass.; M. Edgar Tarr.

Canton Photographic Society, 136 W. Tuscarawas St., Canton, Ohio; Theodore V. Gibbs.

Camera Club of the Air, Buffalo, N. Y.; Eleanor Sharpe, 385 Lisbon St.

Lansing Camera Club, Lansing, Mich.; Walter E. Dougherty, 1311 Ionia St.

Nutmeg Camera Club, Manchester, Conn.; Elizabeth J. Norton, 180 Main St.

MINICAM would like to hear from other clubs who would like their names added to the above list. Just address "Camera Club Editor," MINICAM Magazine, 22 East 12th, Cincinnati, Ohio. State whether you would like to exchange exhibits with other camera clubs. Additions to the above list of camera clubs will be published in a future issue of MINICAM.

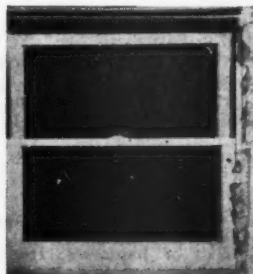
DARKROOM HINTS

Light-Tight Windows

A kitchen or bathroom may rapidly be converted into a light-tight darkroom by means of pieces of corrugated cardboard, cut from packing cases. These cardboard are cut to fit snugly over the glass in the window frames.

Place pins parallel with the cardboard and push them into the window frame. The pin holes are too small to deface woodwork.

The cardboard can be made more durable by binding the edges with tape. Since most bathrooms have one window, only

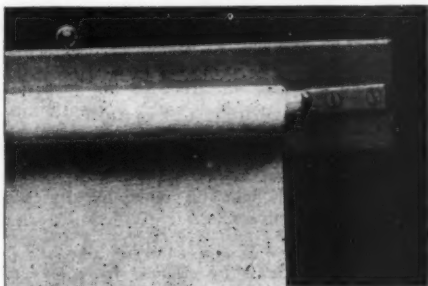


two pieces of cardboard are necessary, one for the top and one for the bottom pane of the window.—Rex Wightman.

Use Window Shades for Backgrounds

By DR. I. CLYDE CORNÖG

AN ever-present difficulty which the amateur meets in portraiture and in the photography of objects is that of the background. The difficulty has to do with color, texture and extent, and it is practically impossible to overcome these difficulties unless there are available



● One end of support for roller carrying background material, which in this case is a yellow paper window shade. The background of the photograph is also on a roller supported just like that shown in the illustration.

a variety of backgrounds of reasonable size and portability.

For most ordinary purposes the problem is solved simply by the use of window shade material. In the ten-cent stores, window shades with rollers may be had in at least five colors, viz: green (2 shades), gray, ecru, yellow, and white (really a bluish white), and there are also several colors available in the rough surface paper shades. All of these are on rollers, and they hang flat when in use, and are easily and satisfactorily stored when not in use.

This scheme is more versatile than at first appears, for it is practicable to get long rollers, say four feet or even longer, and to use cloth or other material, so that large backgrounds may be made and stored quite easily.

My largest background is four feet wide and is made of a very dark red cloth, of the type known as "rep." I have a board about four inches wide which can be hung on the wall by means of two eye-screws. This board has on it supports for the rollers so that they may be rolled and unrolled just as in ordinary use. When I am not using the background, I keep them wrapped separately in newspaper.

Washing Negatives

Negatives held in the core of a developing tank are washed, not in the developing container, but in an empty coffee tin slightly larger than the core, with a few holes punched in the bottom. The water runs in the top from the tap and out through the bottom. This drainage from the bottom speeds up washing.

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AS USUAL ON PAGE 106

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??? QUESTIONS ???

to the Editor

Q. A Neon tube "cold light" unit for my enlarger made according to the article in *MINICAM* for August does not supply sufficient illumination although a 3,000 volt transformer is used.

Ans. The amount of illumination furnished by a gas-filled tube depends on the amount of current provided it. A tube 10 mm. in diameter should be powered with a transformer producing about 30 milliamperes at 2,500 to 3,000 volts. The output of such a transformer would be rated at about 100 watts. A second article on "cold light" is scheduled for the next issue of *Minicam*.

Q. In building a 35 mm. enlarger, what maximum distances must be allowed from lens to negative and from lens to easel?

Ans. This depends on the focal length of the lens. For 35 mm. negatives, a 2-inch lens usually is used in enlarging. With this lens, the lens should be adjustable between 3 inches and 2 1/5 inches from the negative. And the distance of the lens above the easel should be adjustable between 6 to 22 inches. This will allow making enlargements from a 35 mm. negative (1" x 1 1/2") as small as 2 x (2" x 3") and as large as 10 x (10" x 15") when the entire negative is used.

Q. What is the difference between an X2 filter and a 2X filter?

Ans. Each filter manufacturer has his own designations, usually by letter, such as "G", "K", "X", etc. When a number follows one of these letters, it indicates only a difference in density. "K1" and "K2" filters are both yellow but the latter is the denser of the two.

Filters were once named according to the amount of exposure increase required. A "2 times" filter then was one which necessitated doubling exposure. Thus filters were called 2X, 3X, 4X, etc. This sort of classification no longer is accurate as the amount of exposure increase varies with the film used.

Q. Before putting film into the developer, I soak it for two minutes in clean water at 65 degrees, but have been told this step is a waste of time.

Ans. Soaking the film before development has a softening effect on the gelatin and therefore will permit a lessened development time. Pre-soaking usually is advocated as a cure for negative defects such as streaks, air bells, etc., but a better cure is agitation of the tank at regular intervals about ten times during development.

Cinecam

A MONTHLY DEPARTMENT OF IDEAS FOR CINEMA-MAKERS

TAKE A SCREEN TEST

To improve posture, poise, dress and efficiency in sports, take a home screen test and analyze your form.

By LEE FORREST

ENTERTAINMENT, amusement, self-expression—the use of the camera in these pursuits is well understood and appreciated. On the purely practical side, too, earnings are produced by many an amateur camera. But there is yet another service to which the camera may be put in everyday life.

Every woman wants to improve her appearance, every man his golf game, tennis, football, etc. Before a person can improve his efficiency, appearance or poise, he must heed the Biblical admonition, "Know thyself."

For this purpose there is no better medium than the camera, especially the movie camera. "Oh, I do all right," is a man's first reaction. Women are less egotistical, more anxious to know how they appear to others.

The first motion picture a man sees of himself—walking, talking, gesturing, etc. are a revelation. He does not recognize himself. This is only natural as he knows only the face seen in

a mirror shaving or trying on a new suit. He sees awkward poses, wasted energy and faults in dress—things he would criticize severely in another person.

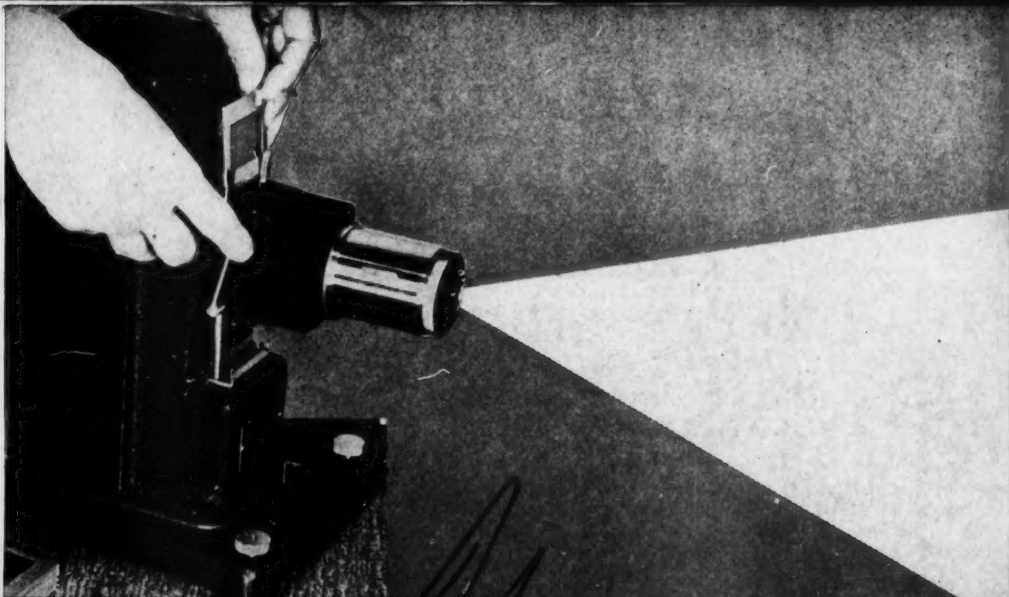
Every woman wants to be photographed in seven or eight complete changes of costume. She walks once slowly back and forth in front of the camera, then straight toward the lens, turns and walks away. A final shot showing a slow turn around completes the sequence. The same procedure is followed with each costume to discover what type of clothes best suits her. Yet more important will be the discovery of the type of garment to be definitely avoided.

She also will have pictures of her hair done up in various ways. If photographs of each change

(Page 105, please)



• Pictures give the golfer an opportunity to watch the movement of his eye on the ball, his left arm, the shifting of weight from the right to the left foot, and other important details of his form in driving, approaching and putting.



PROJECT YOUR PICTURES

● Simply make contact prints (on film or plates) of your favorite negatives and bind between glass. That's all there is to making projection slides. Show off your pictures to their best advantage and to an entire group of people at one time.

Add a new dimension to picture enjoyment. Project a snapshot or a salon print on the screen and watch it spring to life!

BY C. W. GIBBS, A. R. P. S.

"BILL, if your interest is slipping—try *sliding*. Put your stuff between glass, get a projector and start seeing things in your pictures you've never seen before!"

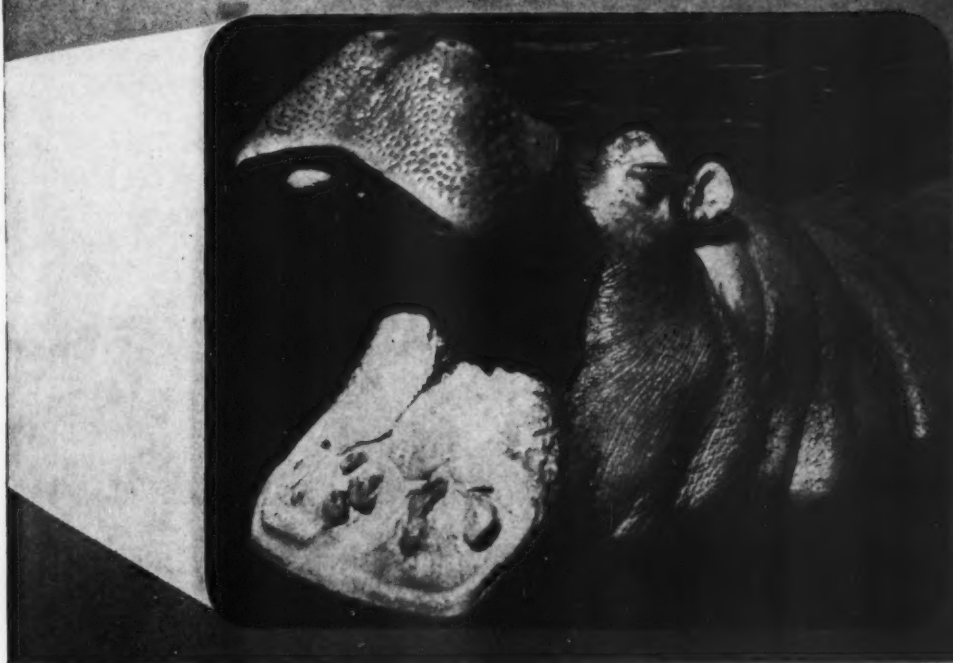
Color pictures, in Dufaycolor and Kodachrome, being already in transparency form, it is only necessary to bind each color shot between glass plates in order to enjoy the advantages of projection. But

Next month: "TALKING SLIDES," a revolutionary achievement in home showmanship, a complete, detailed article on how to add synchronized sound to your slide films.

why not project black and white snapshots, too?

Any camera fan can step into a startling changed world of pleasure by selecting his favorite negatives, making contact prints on film, binding the transparencies between glass, and projecting on to a screen, light wall or ordinary window shade.

A good many photographers are now copying their best black and white shots onto film or plate transparencies and showing them on the screen along with their color slides. A transparency is capable of rendering such a long tone range in com-



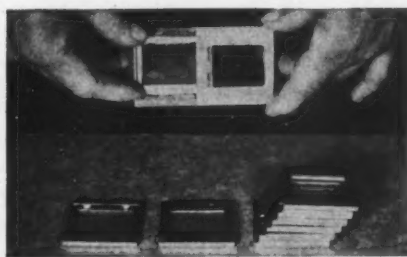
parison with the usual paper print that the photographer finds it to be a far better medium for his shots as well as a very convenient way to display them.

To make a good transparency no more technical knowledge is required than necessary in making a regular paper print or enlargement. The mere fact of being film or glass offers no difficulty in the processing. Positive film or lantern plates are employed and these materials are usually coated with a bromide emulsion. Though fast enough for use in projection they can also be very easily used in the contact printer.

Cost need not worry you. The first item to have is a projector. New, you can buy a thoroughly efficient one for as little as fifteen dollars. If you can be satisfied with one which has been used, this cost can probably be cut in two. How to build your own projector will be described in a future issue of MINICAM. Surprising as it may seem, the initial investment is vir-

tually the only one which your bank account will feel. Other expenses are but incidental.

In the beginning you will want to try your skill on a few experimental film slides. So you will need very little positive film material. Start by buying a pack of Process or Positive film, of a size to suit your negatives or which may be economically cut to size. These films are



● Color pictures, in Dufaycolor or Kodachrome, come to us already in transparency form. To project them, it is only necessary to mount each color shot between glass plates.

satisfactorily slow—a feature to be considered in contact printing—and give good contrast for projection. Later, if you like, you can buy positive film in more convenient form—such as 35mm. rolls—or in larger quantities. The film should be cut up so that one negative at a time is printed. This allows full control in the printing. This is important as positive film is usually supplied in but one degree of contrast.

A suitable printing frame may be made in a moment by hinging two pieces of flat, clear glass with adhesive tape on one side, as in Fig. 7, page 49. Between these glasses you can sandwich the negative with the unexposed positive film, and be sure of good contact for printing. Hold the glasses together with a wooden clothespin when making the exposure.

Make your exposures with a pocket flashlight. Its illumination is amply brilliant. Don't overexpose, or you will lose contrast in your positive transparencies. I have found that by holding a two-cell pocket flash about two feet from the printing frame and covering the flashlight lens with the single thickness of a white handkerchief to distribute the illumination, I can print an average negative by merely flashing the light on and off as quickly as possible.

Positive film, being slow, may be safely worked with in the amber glow of an "OA" safelight or the orange "O" slide, so it is easy to watch development.

Any standard MQ developer can be used with positive emulsions, but greater dilution than with bromide papers is recommended. If the standard commercial developer D72 is used, it is diluted with four parts of water for enlarging papers and with six parts of water with positive materials.

In developing a positive do not try to obtain the same quality, or rather, the same general appearance looked for on a print on paper. Remember a slide is not to be viewed by reflected light, but by transmitted light—and a strong light at that. If the slide were developed as a paper print with white highlights and plenty of

detail in the shadows, it would be too thin when shown on the screen.

If the photographer wishes to use different developers to obtain harder or softer effects than normal the following formulas are recommended:

For normal results.

Metol	20 gra.
Sodium sulphite	1½ oz.
Hydroquinone	160 gra.
Sodium carbonate	1½ oz.
Potassium bromide	10 gra.
Water	32 ozs.

For less contrast.

Metol	35 gra.
Sodium sulphite	265 gra.
Hydroquinone	14 gra.
Sodium carbonate	1½ oz.
Potassium bromide	15 gra.
Water	32 ozs.

For higher contrast.

Metol	20 gra.
Sodium sulphite	¼ oz.
Hydroquinone	80 gra.
Sodium carbonate	400 gra.
Potassium bromide	15 gra.
Water	32 ozs.

(The formulas are ready for use and should not be diluted.)

A good slide will look overexposed and overdeveloped when development is complete.

Full exposure must be given to print through the deepest highlights. Let the shadows take care of themselves. They will look choked up when they are developed but there will be plenty of detail there when shown on the screen.

If they do look brickly and lacking in detail when projected, then a softer developer or a lantern plate of less contrast can be employed. When first making the slides wait until they clear in the hypo, then hold them up to the safelight to judge the quality before going on to the next transparency. After some experience in judging the quality this will not be necessary but on the initial trials it is better to do so.

Fixing may be done in any standard fixing bath containing hardener. The hardening action is necessary to enable the emulsion to withstand the heat of the light used in projection.

Be sure to leave your exposed and developed positive film prints in the acid-fixing bath long enough. And don't skimp on washing time. Transparencies which discolor later because of inadequate wash-

ing will never look good on the screen!

There's one further point to remember. Save yourself trouble. Don't try to mask your negatives while you print them. To do so is to invite danger of poor contact, and the possibility of fog at the edges of the frame. Instead, mask the transparencies later when you are binding them between the cover glasses.

If it is found that the black and white slides are too cold in appearance when shown along with the color slides, they can be colored. They can be hand colored to simulate natural color slides or they can be tinted or toned any single color. Or colored cellophane can be inserted with the film when binding.

Tinting is accomplished by simply bathing the slide in a dye solution. This uniformly colors the gelatine—the color therefore is more pronounced in the highlights.

Toning is the replacing of the black image by a colored image. A tinted image has colored highlights while a toned image has white highlights, the color strongest in the shadows. Most unusual effects may be obtained by tinting with one color and toning with another color. Any of the toning formulas recommended for use with bromide paper can be successfully used with positive emulsions. An article on toning prints is scheduled for an early issue of MINICAM.

Glass lantern slide plates are obtainable in two or three degrees of contrast. The slides then will enable the photographer to exercise more control than with the positive film.

If the photographer wishes to use glass lantern plates instead of positive film, he may have difficulty in some localities in obtaining 2x2 inch slides. It is a simple matter to cut down standard slides, as they are of very thin glass. Each 3¼x4 slide will cut down into two 2x2 slides and one test strip 1¼x4.

When the photographer turns to making his transparencies on the glass slides he could start with the medium variety and then after he is accustomed to their manipulation try out the softer and harder contrasts. As is the case with most positive

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materials the photographer will not be troubled with many different brands. Each manufacturer supplies but one positive film, one process film and in the case of lantern slide plates supplies one brand in three contrasts.

Lantern slides are handled exactly the same as the positive or process films. The only difference is that the image must be carefully centered exactly in the center of the plate. This little added effort is counterbalanced by the fact that in binding up the glass slide, but a single piece of glass is used as a cover glass.

Producing positive slides from black-and-white negatives is just as easy as enlarging on bromide paper—possibly easier—and actually takes less time. To mention just one time-saving advantage, there's no need to focus. Close contact makes sharp definition certain. Yet this is only part of the magnetic attraction of transparency production.

Any camera may be used to take pictures for making film slides. Any sharp, well-exposed fine-grain negative from even a low priced box camera will give a satisfactory positive transparency if you work carefully.

Standard 35mm., half-127 and 828 film sizes come within the covering power of the lenses used to project the usual two-inch film slides. But even if your camera takes a larger picture you can still enjoy the thrill of transparency projection by making film positives from carefully selected portions of larger negatives.

Yet all these inducements to see your pictures by projection are mere side issues when compared with the clinching fact that film's longer tone range reproduces detail more definitely and naturally than sensitized paper.

You can prove this for yourself. Take the negative from which you have made your best enlargement—one which you believe has recorded the shadow detail perfectly, the highlights with full brilliance and the middle tones in their complete range.

Now make a film positive of this same negative by contact, bind it between glass

slides and view the *projected* picture. The flatness noted in the paper enlargement will be gone! You'll see *distance*! Depth. Background objects will recede to their proper places. Your subject's hair will gleam—flesh tones catch the light and reflect it naturally!

Slide, fellow—slide! Just try it once, and you'll see in your pictures beauty and artistry which you never knew were there.

Then, next time your friends drop in for the evening and ask, "Taken any new pictures lately?"—instead of pulling forth curled, unmounted enlargements and commenting on each individually as many times as there are guests, just bring out that tiny projector and neat case of trim, uniformly-square slides. Snap off the room lights, click on the projector lamp and the show is in full swing. Take a minute with each slide to let the "Ah's!" die down, and to answer questions. You can depend on it, there'll be many asked. Make the viewing brief, too—not more than half an hour.

With good pictures thus displayed there's no risk that your friends may mumble, "What a bore!" Far more likely, they'll be saying—"What a lot of fun!"

Giving a grand performance, then ringing down the final curtain while the audience still wants more, has always been "good theater". Today it's good photography, and something to remember.

Take a Screen Test

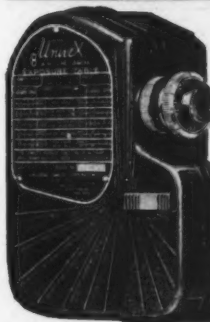
(Continued from page 99)

are made from similar angles the film may later be cut apart and spliced together so that all the front views come together followed by the side and back views.

A good idea of how a woman's new hat looks also can be made in the same way. Here is the husband's chance to do a little sly work on his own. A carefully planned man's-eye view of a particularly obnoxious piece of millinery may do more to induce the wife to abandon it than hours of argument.

Every "screen test" should include the subject making entrances, exits, and walking down stairs.

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WESTON

Exposure Meters

One of the most important uses which a motion picture camera can be put to is in the instruction of children. Here a camera with slow motion is particularly advantageous. A "stop action" attachment on the projector also will serve.

With the boy it is well to get him interested in the technique of motion picture education by first using it to make him more proficient in his sports. Take a picture of him hitting a baseball and compare with a big league batter. Later, analyze the boy's faults on the screen. With a girl the same procedure can be used with dancing, poise, posture, etc. as well as sports events.

In this important phase, it is not only children who need coaching. A single reel of the family at the dinner table will do more to improve table manners than a dozen Emily Post textbooks.

Color film is ideal for educational work except where there is action to be studied. Then black and white film is superior, for there is less to detract from the movement which is being analyzed. In all cases where there is action it is best to use



● Awareness of style is gained by the man or woman who sees himself as others see him through the medium of a movie or still camera.

simple backgrounds of contrasting tone to the subject.

Bring your camera into play as a vital force in improving yourself and your family. Perhaps you can even put your camera to work making money for you, by selling the idea of self improvement through motion pictures to neighbors and friends.

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Eastman Home Enlarger	16.50	12.00
Keystone 16mm. Model A3 Movie Camera, F 3.5 lens, Perfect condition	35.00	25.00
Ernmann 3 1/4 x 4 1/4 Reflex. 18 cm. Tessar F 4.5 lens. Perfect Condition	190.00	57.50
Simplex 16 mm. Magazine type Movie Camera, F 1.9 lens . . .	120.00	49.75
Ikomat C, F 3.8 lens	72.50	48.50
Korona View, KA F 7.7 lens, 3 1/4 x 4 1/4		30.00
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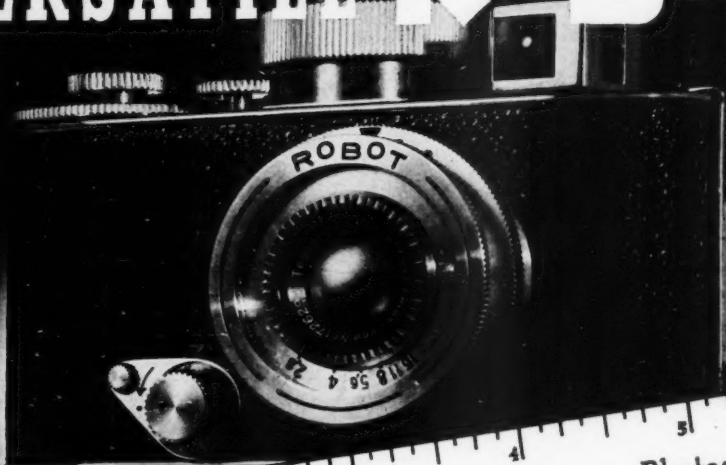
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